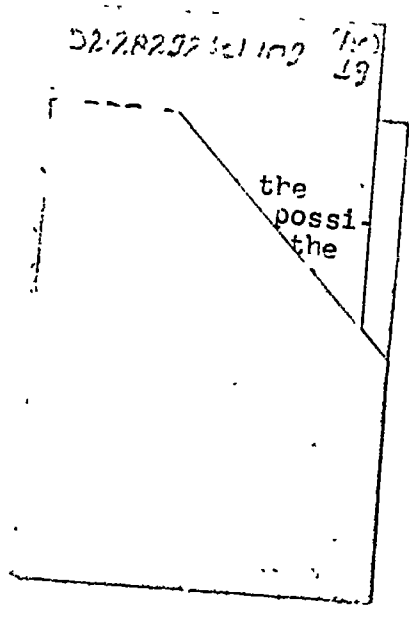
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REPORT

ON THE

Irrigation Possibilities in the Istimrari Area

OF THE

AJMER DISTRICT.

The Istimrari area of the Ajmer District contains 66 estates, the total area amounting to 819,533 acres.

2. Apparently the only record that exists of the tanks in this area is a list made out in the year 1877. This gives the total number of tanks (whether used for direct irrigation, or for watering cattle, or drinking purposes) and nadis in which the bed areas only are cultivated, to be 1,353. Since 1877, 608 tanks and nadis have been constructed, bringing up the total to 1,961 tanks.

3. In carrying out the present investigations the following course has been adopted. Out of the 1,961 tanks mentioned, those tanks capable, when full, of irrigating 200 bighas with one watering, were selected and classed as A Class tanks. Other small tanks only capable of irrigating less than this, village tanks for watering cattle, and nadis were neglected. Out of these 1,961 tanks, 391 have been classed as A Class tanks. The Istimrari area was then divided up into sixteen main drainage areas.

Each of these drainage areas was then investigated in turn, and the A Class tanks mentioned were visited, and all nullahs were examined to see what improvements could be made to existing tanks of any importance, and what other possibilities there might be for constructing new works.

4. Proposals have been submitted for each drainage area, and the drainage areas are shown on the map, together with the A Class tanks in their correct positions, and the sites where new works were proposed. In addition to this a list has been made out of all the A Class tanks, which have been numbered pargannah by pargannah. It is now possible to find out at once from this list and map, the position of any A Class tank in the area. Up till this time no such map or list existed.

5. There seem to be few possibilities of constructing new works of any importance, though a certain amount can be done in repairing existing tanks and carrying out small new projects.

The estimates that may be prepared for these projects, in most cases will seem costly in proportion to the benefit to be derived from the works when completed.

This may be accounted for as follows:—

The Istimrari area is divided up into many small estates, and each of these estates has to depend on its own tanks for its water-supply, and in many cases good sites have not been obtainable for the construction of tanks, and consequently inferior sites have had to be utilized at a greater expense.

A very long bund being often necessary to store a very small amount of water, consequently the cost of repairing tanks of this description is heavy in comparison with the benefit obtained. In many cases the tanks only consist of earthen bunds badly constructed of inferior soil. These tanks can only be strengthened by adding on additional earth-work, and owing to the original bad work in construction, it is more than likely that they will breach again, even after repairs. The cost of reconstructing the bunds or supplying face-walls, or otherwise satisfactorily repairing tanks where the sites are unsuitable and long bunds are necessary, would be prohibitive.

6. The main difficulties in utilizing the available water-supply to the best advantage are as follows:—

(*a*) The country being divided up into so many estates.

(*b*) The unwillingness of the estates-holders to combine in any way in irrigation matters.

As a result of clause (*a*) a good site may be selected for the construction of a tank in one estate, whereas the land under command may be situated in another estate, and there may be other similar complications which necessitate a project having to be abandoned.

With reference to condition (*b*) an estate-holder has been known to divert surplus water passing through his estate, which he could not utilize himself over his own land, and thence to waste into a nullah, by so doing damaging his own land rather than allow an adjacent estate-holder to utilize this water.

7. The main difficulties in helping estate-holders to improve their tanks in whatever way may be possible, I would put down to the following reasons:—

(*a*) The indebtedness of the majority of the estate-holders.

(*b*) The inability of the majority of the estate-holders to realise the advisability of keeping their tanks in repair. In many cases no repairs are carried out till the tanks actually breach.

(*c*) The inability, in many cases, of estate-holders being able to realise the cost of carrying out works satisfactorily.

As an example, an estimate was lately prepared by me for repairing a tank for some Rs. 16,000. The estate-holder in question, if he carried out the work himself, could certainly do so at somewhat cheaper rates, but he considered that he could carry out the repairs very satisfactorily for Rs. 3,000.

8. From what I have been led to understand during the past investigations, the Istimrardars are averse to receive free grants-in-aid from the Government, as originally proposed, which means the work being constructed by the Government, at Government rates, with the necessary conditions that have to be imposed for future maintenance of the work to assure the Government obtaining some return for their money. They fear that by availing themselves of the offer of free grants-in-aid, the Government would eventually get a hold over the management of their tanks. The course that those Istimrardars, who desire to be helped, would like the Government to adopt in helping them to repair and improve their tanks, in many cases seems to be as follows:—

That the Government should prepare plans and estimates, and that these should be handed over to them free of cost; they would then apply for a Takavi loan, and either carry out the work themselves, or ask the Government to carry out the work for them.

9. I consider that by having surveys made and projects prepared, and by handing over plans and estimates free of cost to the Istimrardars, the

Government would be going far towards helping them, and under the conditions that obtain in the Istimrari area, *except* in the carrying out of *large* projects. I think that the estate-holders should be encouraged to carry out the works themselves, with the help of a Takavi loan; they should appoint their own contractors and competent overseers to be in charge of the works. They would in this way carry out the work more cheaply, and would begin to take more interest in the maintenance of their tanks. In some estates a permanent overseer is kept, and in these cases there is no doubt that far more interest is taken in the improving and keeping in repair of tanks.

H. J. OLIPHANT,
Assistant Engineer for
Irrigation, Rajputana.

15th May 1909.

DRAINAGE AREA No. 1.

Starting at the hills in the north of this catchment area, three nullahs start in these hills and meet and pass into the Richmalia Nullah. As there is no land suitable for irrigation there is nothing that can be done with this nullah.

2. Passing up stream along the Richmalia Nullah, just before reaching the village of Richmalia, there is a very good site for a weir (Site A), which will be useful to hold up water for the benefit of the wells on the right-hand bank facing up stream. A survey and plans will be submitted.

3. Continuing up stream there is a good site (Site B), for a tank; but the low land near the bed of the nullah is already irrigated by wells, and the higher ground would be too high for irrigation from the proposed tank; in addition, a lot of land irrigated by wells would become submerged in the bed of the tank, therefore I do not consider a tank here would be advisable; but a weir might be constructed here to benefit the wells. A survey and plans will be submitted. Both of these sites are in the Richmalia Estate, and the Thakur Sahib desires to have the estimates prepared.

4. Continuing up stream we come to Tank No. 4, the Pagaran Tank, owned by the Raja of Pisangan. This tank has been lately repaired, but the face wall is old and of inferior masonry. During the last rains the water percolated through the wall into the earthen embankment, as the soil of the embankment is inferior; this might lead to breaching. It might be advisable to slope off the inner side of the face wall with an earthen embankment 2 to 1 slope from the top of the face wall, and stone pitch it. When this sets, there is less chance of the water percolating through the face wall, and if it does so, it will take some earth with it. The necessary levels will be taken and an estimate prepared, and the work might be carried out during famine if it is thought advisable. In addition to this, the necessary levels will be taken for re-aligning the existing water-courses, and for lengthening them, as desired by the Rajah Sahib, and an estimate will be prepared for this work, including the necessary masonry work.

5. Passing along up stream we come to Tank No. 7, the Jodh Sagar, belonging to the Thakur of Mewaria. This tank is in a very bad condition, consisting as it does of an earthen bund of weak section, with a drystone face wall; the weir is of insufficient length, and the water passes over the top of the embankment, which is only 2 feet above the weir level in places. There is a very good site for a natural surface weir which could be made at little cost. I proposed to make an estimate for repairing the bund, making it of proper section, building a new weir and sluices, and repairing the face wall where repairs are possible; and in the other places the stone from the old face wall would be utilized for pitching at 2 to 1 slope, to resist wave action. This tank would then be in a good condition, and would not breach as it does now, and as it will continue to do. The Thakur Sahib was not pleased with my proposal, and stated that he required the weir level to be raised by some four feet. He further stated that this was the height at which the weir level used to be formerly. I cannot understand how this could have been the case, as the top of the embankment is only some two feet higher than the present weir, and the top of the face wall is of very

old masonry, and there are no traces that the wall or embankment have ever been at a higher level. This tank is in the catchment area of the Pagaran Tank, and it would not be advisable to raise it, as the Pagaran Tank just fills in an ordinary year. The catchment for this tank (The Mewaria Tank) is two square miles, taking rainfall of 24 inches, which is a high average, and a run-off of 15 per cent. (also high for the soil in this catchment), this would give 7½ million c.ft. of available water. Up to present weir level the tank capacity is about five millions c.ft. (the exact capacity will be found out by survey). If raised by four feet the capacity would be about trebled, say 15 million c.ft., so the tank could then be only half filled from its catchment. I explained the matter carefully to the Thakur Sahib, but he stated that unless the water level was raised to four feet, he considered repairs to the tank (as proposed by me) would be useless, and preferred that nothing should be done.

6. At Kesarpura, Tank No. 9, the Naya Talab, belongs to the Thakur of Mewaria. This tank is weak in section and requires repairs; but the Thakur Sahib does not think that anything is necessary.

7. Tank No. 8, Nadi Chajamagri, belongs to the same Thakur, and he wants this tank repaired. This tank or rather remains of a tank, is situated as shown on the map, on a nullah which leads into the Kesarpura Nullah, and from thence to the Pagaran Tank. The Thakur of Mewaria raised this tank some ten years ago, and the Rajah of Pisangan objected, as he was intercepting the water which flowed into the Pagaran Tank. After inspection of the site by the Assistant Commissioner at that time, orders were given to the Thakur of Mewaria to dismantle the work and allow the water to flow on to the Pagaran Tank, which was done. This order still holds good, and if anything is done to reconstruct this tank, the Pagaran Tank would be affected.

8. At Site C, near Bhacktawapura, the land belongs to the Rajah of Pisangan, and he suggested that a small tank might be constructed here; but this is not advisable, as the site is in the catchment of Mewaria Tank No. 7 and would intercept most of the water now going to this tank.

9. At Site D there is an existing earthen bund, at present breached, stretching to the high ground on either side, and forming a small tank known as the Jhal Sagar. There is no weir, and the surplus water passes away at the sides of the bund and over the top of the bund. There are some 200 bighas of land fit for cultivation below this site and its catchment, though in that of the Kesarpura Tank No. 9, is very small but of rocky surface. I propose to reconstruct this tank, keeping the weir level the same as that of the ground at the end of the bund, which is at present acting as a weir. The tank would then irrigate 200 bighas below it, and would not interfere with the Kesarpura tank water-supply. A survey and plan will be submitted.

DRAINAGE AREA No. 2.

1. In this drainage area there is nothing possible, *vide* para. 14 of the Superintending Engineer's Report on Irrigation in Istimrari Estates of 1904.

DRAINAGE AREA No. 3.

1. At the south of this catchment there is a tank at Basturi, the Basturi Talab No. 6; and Tank No. 5, the Nad Talab, which irrigate the land below them.

2. The bed of the Basturi tank has become very silted up, and the Rajah of Pisangan wants the dam to be raised so as to store more water. A survey will be made to show the present capacity of the tank, and it will then be seen if the catchment is sufficient to enable the bund to be raised. If this is not possible, the bund is badly in need of repairs. It consists of a masonry face wall, in parts broken, with a backing of earthen embankment, in parts very weak in section. The weir is not of sufficient length, and water sometimes passes over the top of the bund. New sluices are also required and water-courses with proper alignments. A survey and estimate will be prepared for these improvements only, if it is found that in an average year of rainfall the available water-supply will not permit of the weir being raised.

3. No. 5, the Nad Talab, is a large shallow tank which fills in a good year from its own catchment, otherwise partly from the overflow from the Basturi Talab, if this tank overflows. This tank is badly in need of repairs. The bund consists of an earthen embankment of very weak section, with a vertical dry-stone face wall in some parts, and a pucca face wall in other parts; throughout the masonry is very inferior and the foundations are not sufficient. The weir is also too small, the water passing over the top of the bund. As the bund is some two miles in length, and it will be expensive to thoroughly repair the bund, the Rajah Sahib desires to have an estimate made for repairs to the weakest sections only, and the weir made the correct length. A survey and estimate for this will be prepared, and an estimate will also be prepared for building up the bund to the proper section throughout, and this latter estimate might be kept for a famine project.

4. Continuing northward from the Nad Talab we come to a nullah which runs from Kalesaria village, joining the Sagarmati at Pisangan, *vide* para. 11 of the Superintending Engineer's Report on Irrigation in Istimrari Estates, dated 1904, in which he states that there are some rocky crossings that might be suitable for weirs. I have followed up this nullah from where it enters the Istimrari area. At this point the rock is some 30 feet below the surface, and there are very few wells. Continuing further along down stream we come to boulder rocks near the surface, but here there are no wells, and the land is unfit for cultivation. Continuing further down stream the rock becomes good, but there are no wells, and the land remains unfit for cultivation. Near Pisangan village there are wells; but here the rock disappears to 40 feet below the nullah bed, so I do not consider that there is any possibility of a weir being constructed on this nullah.

5. Following down the Sagarmati River on the left-hand side, Site No. A, there is a small tank called the Hadolao Tank, capable of irrigating some 200 bighas. At present the weir is too small, of bad masonry, and in the wrong position, and water passes under this. Also the earthen bund is in a bad state and too weak in section. The weak section of the bund should be rebuilt, and should be extended on the north-west side, so as to take in a small nullah into the tank. Two new sluices require to be constructed in the correct positions, and

a weir should be built of proper length on the north-west end. This site was inspected by you, and in accordance with your orders the catchment will be surveyed and levels taken to see if the water required to irrigate the available land can be obtained in a year of average rainfall, from this catchment, without extending the bund to take in the nullah mentioned above.

6. Close to this tank is Tank No. 1, the Bicholao Talab. This tank leaks badly. It is entirely a rocky surface in this tank bed, and when the tank fills it is stated that it empties within ten days by leakage through the bed. At present nothing can be done for this, but it might be examined during the rains and noted, if possible, if the water leaks through the bund as well as the bed; and if the leakage can be located and satisfactorily prevented, an estimate for repairs to this tank might be afterwards made.

7. Following along the nullah there is a small tank near Govindgarh village, Site No. B, called the Shankar Sagar. This work was started in the year 1900, at the cost of the Govindgarh Estate, as a famine work. About 3,000 rupees were spent on it, and work continued till famine relief was no longer necessary, when the work was stopped. After the next year, the Thakur Sahib had not sufficient funds to complete the work. Consequently it is still incomplete, and the work that has been done on it is of such bad quality that it is practically useless. The earthen bund requires building up to proper section, with possibly a core wall, and extending the high ground on either side. The water at present runs to waste between the ends of the bund and the high ground on either side. A weir and two sluices are also necessary. The necessary surveys and plans will be submitted, and the project should not be an expensive one.

8. On the north-west side of Govindgarh there is a site suitable for a weir, Site C, to hold up water for the benefit of the wells up stream, *vide* Superintending Engineer's Report on Irrigation for 1904, para. 10. The Thakur Sahib stated that he did not understand how this proposal could benefit him, but having explained the proposal to him, he is no longer opposed to it, and a survey and plans will be prepared.

9. On the west of this site there is an old nadi by name Nadi of Lohars, Site D. This is a small nadi with its bund in a broken condition, receiving its water-supply from surface run-off, there being no defined nullah. It is possible to considerably enlarge this nadi, and it will be used for bed irrigation only. This is a small project, but as the Thakur Sahib owns but a little land, and desires to utilise it as much as possible, levels will be taken and plans and estimate prepared for reconstructing the earthen bund, the construction of which would be a suitable work during famine.

10. To the east of Govindgarh, near the village of Akhepura, there are the remains of an old nadi, Site E. In the time of the late Thakur Rugnath Singh of Govindgarh a proposal was made to convert the nadi into a tank to irrigate some 500 bighas; for this purpose the Government provided Rs. 2,000 and allowed the Thakur to start work. Before the work of construction actually began the Thakur died, and his successor, being a minor, the work was not carried out, the balance (some Rs. 1,940,) being returned to Government. There is a lot of land suitable for cultivation here, and the catchment of the proposed tank is some two square miles. A survey will be made, and if it is found to be satisfactory an estimate will be prepared.

11. To the south of this site there is Tank No. 2, the Dand Talab, owned by the Thakurs of Govindgarh and Sethan, only used for cattle. Nothing is required here.

12. To the east of this there is No. 3, the Barra Talab, owned by the Thakur of Sethan; and to the south of this, at Site F, the construction of a tank was proposed by Mr. Manners-Smith when Superintending Engineer, *vide* his report on Irrigation in Istimrari Estates, 1904, para. 13 (the Fatehpura project). Of the land between Site F. and the Barra Talab, Tank No. 3, the northern portion belongs to the Thakur of Sethan, the southern portion to the Rajah of Pisangan. The catchment area for the proposed Fatehpura Tank is some 11 square miles. The water from this catchment at present spreads out at Site F, and flows over the country, a portion flowing over Pisangan territory, *via* Fatehpura, passes to waste into the Sagarmati, and a portion flowing north is taken by means of a cut by the Thakur of Sethan to his Tank No. 3. The Fatehpura project provides for the following:—

That a new tank should be made at Site F, in Pisangan territory, of capacity 28·7 million c.ft., the catchment area of 11 square miles being calculated to give 31 million c.ft., the waste weir to be connected by a duct to the Barra Talab No. 3.

The Thakur of Sethan objects to this project, as his tank, the Barra Talab, fills partly from its own catchment and partly, as before said, from the water from the catchment of the proposed Fatehpura Tank; and in the event of the latter tank being built, in bad years when there was no overflow he would receive no water from this source. Consequently his Tank No. 3 would have to depend on its own catchment, which is insufficient and would not fill. I consider this would often be the case, as 24 inches was taken in the calculations for the average rainfall, which is a high average at this place, and the country here is very sandy, and there would most probably be a certain amount of leakage due to this, and if so there is no chance of the tank becoming water-tight by silting, as the entire catchment is sandy. The present capacity of Tank No. 3 is roughly five million c.ft., available water-supply from its catchment of one mile with 24 inches rainfall and 5 per cent. run-off giving three million c.ft.; that is, two million c.ft. is taken from the catchment of the proposed Fatehpura Tank. The Thakur of Sethan's proposal is this: that the Fatehpura project be abandoned, and that his Tank No. 3 may be raised to hold as much water as can be taken from the catchment of the proposed Fatehpura Tank by means of a duct. The Rajah of Pisangan would of course object to this, as the water would pass over his territory, and the duct also.

It does not seem to me to be advisable to carry out the Fatehpura project as it stands, but before going further into the question it is neccessary to know the exact capacity of the Sethan Tank. A survey will be made for this purpose. The Sethan tank is badly in need of repairs, but until the question of the Fatehpura project is definitely settled it is useless to have any plans for this made.

DRAINAGE AREA No. 4.

1. On the north of this catchment there is Tank No. 10, the Phul Sagar. This is a small tank formed by an earthen bund some 22 feet high, joining the hills on either side. At the deepest portion of the bund there are four core walls passing through the earth embankment two feet thick at intervals of six feet. At this point the bund is breached, the weir being much too small, consequently the surplus water passes over the top of the bund. About a hundred bighas could be irrigated if it is repaired. A survey will be made, and if the tank can be repaired at a reasonable cost an estimate will be submitted.

2. Tank No. 11, the Jaet Sagar, is now not used; it leaks, and there is practically no land fit for cultivation, so nothing is necessary. Both these tanks belong to the Rajah of Pisangan.

3. To the south of this, as shown in the map, the land belongs to the Rao of Kharwa. The country is very hilly and rocky and unsuitable for tank construction. The villagers had several proposals, but they were not feasible.

4. Near Sheopura at Site A, the villagers proposed that a tank might be constructed, but the land on each side of the nullah is irrigated by wells to a distance of some 500 feet on each side, and above this the ground is too high.

5. At Site B there is an earthen bund across a nullah now breached, but to repair this would be useless, and only a few bighas could be irrigated in the bed, and masonry work would be necessary.

6. Proceeding down stream there is a Site C, where a weir might be constructed to benefit the wells on the up-stream side.

7. At Site D the villagers desired a tank to be made, but the proposal is impracticable.

8. As already stated, the low land on each side of the nullah is well irrigated by wells, and by constructing a weir at Site C these might be benefitted. A survey will be made, and if the site is approved of an estimate will be prepared.

9. Small field embankments might be constructed among the hills in the places where there are several bighas of land fit for cultivation, but the villagers do not consider it would pay them to construct these themselves.

DRAINAGE AREA No. 4 A.

1. This is a small portion of land belonging to the Rajah of Pisangan, near Sarsiri village.

2. There is a nadi close to this village Site A. This nadi has a very small catchment and never fills, and the Rajah Sahib states that a lot of water flows from the hills on the south-west of the nadi, just outside his boundary, and he desires to lead this water into his nadi by a cut, and then strengthen and raise the embankment of the nadi so as to irrigate some 200 bighas below. Levels will be taken over the country to see if the proposal will be of any use, and if so a report will be submitted at a later date.

3. A lot of water runs to waste through the nullah on the north-east side of the village, but there is no possibility of making a tank here.

DRAINAGE AREA No. 5.

1. At the south-west of this drainage area, near Amratpura, there is Tank No. 3, the Naya Talab. This is a very small tank, and needs no improvements.

2. Near Piplaj village there is Tank No. 2, the Bara Talab. This has a rocky catchment area of half a square mile. The bund is a short one, and consists of a masonry face-wall with earthen embankment. The villagers state that in a year of average rainfall the water passes over the top of the bund, and thence into Tank No. 1, the Bara Talab, near Ruparel. In this latter tank also it is stated that the water flows over the top of the bund and passes into a nullah which eventually leads into a Jodhpur tank, but as the Jodhpur tank has a large catchment, the amount of water passing over the weir of Ruparel Tank in an average year would not appreciably affect it. The catchment area of Tank No. 1, the Bara Talab, is one square mile. Surveys will be made to find out the present capacities of the two tanks, and the land commanded by each of them, fit for cultivation. Thus it will be found out if it is possible to raise the weir level of either or both of these tanks so as to use all the water at present running into these tanks, and plans and estimates will be submitted for this. If it is not profitable to raise the weir levels of either tank, an estimate will be submitted for repairs only.

3. To the east of these tanks and south of the Ajmer Road is the Gopal Sagar Tank No. 4. This tank is in the catchment area of Tank No. 5, the Rani Sagar. An estimate was made by Mr. Manners-Smith for repairing the Gopal Sagar and heightening it to store the available water-supply from its catchment area in a year of average rainfall, providing two sluices and constructing a weir. If this work is carried out the Rani Sagar will not fill. It will first be found out by survey how much land available for cultivation is commanded at the site of the Gopal Sagar. It can then be seen if in an average year of rainfall the available water-supply is (1) not sufficient, (2) sufficient, (3) more than sufficient, to irrigate this land, and it can then be determined whether to do away with the Rani Sagar and raise the Gopal Sagar to the extent required, or to repair the Rani Sagar to present weir level, and also repair the Gopal Sagar and raise it if necessary.

4. At Kharwa there is a large Tank No. 6, the Bara Talab. This tank does not quite fill in a year of average rainfall. It is in good condition. With reference to this tank the Rao Sahib desired to have sluices constructed like those in the Government Tank at Niaran. At present the sluices are of ordinary country type with masonry walls, holes, and wooden plugs, except in one point of the bund, where there is no sluice, and the bund is cut away to form the sluice. Here I propose to construct a masonry sluice of the ordinary country type, as at this point the land is high, and this sluice only irrigates when there is a lot of water in the tank, and it would not be worth going to the expense of constructing an expensive sluice at this point. With regard to the other sluices, of which there are four, plans and estimate will be submitted for new sluices. On the west side of this tank some improvements are required There are two sluices (A and B) shown on the sketch. The water passes through

sluice A along a water-course on the right of the nullah to a point D, where it starts irrigating. The water passing through sluice B, passes along a water-course to a point E on the left of the nullah, where it starts irrigating; but this latter sluice being at a higher level is only in use when the tank is full, hence is practically useless, so that the land commanded by it is uncultivated. Levels will be taken towards the Railway to see how much available land there is for cultivation, and levels will be taken to run a water-course from sluice A, along the back of bund, as shown by red lines on sketch, to the point E, so that sluice A, which is at a lower level than sluice B, may command the land on the left as well as the right of the nullah, sluice B being dispensed with. When the water in this small tank that adjoins the main tank is used up, water is passed from the main tank through sluice C, by a *kachcha* duct to sluice A. This duct is partly in cutting and partly in embankment, and is submerged when the small tank is full of water. It is proposed to build a masonry wall as shown by K. H., where the duct is in embankment on the water side, and to strengthen the slope on the water side where the duct is in cutting from H to A, so as to avoid the leakage that now takes place. A survey is being prepared, and plans and estimate will be submitted.

5. Tank No. 7, Talab Bhatolai. The section is too weak. The dam consists of an earthen embankment, made of usar earth, and this is breached in two places and breaches each year, water passing over the top of dam in the weak section. It is proposed to rebuild the bund to proper section up to present weir level and provide a weir and sluices. A survey will be made for this purpose, and plans and estimate submitted.

6. About four miles up the main road, near Lambana, there is Tank No. 9, the Bara Talab. The bund is of weak section and is breached, and the weir is too small. In a year of average rainfall the villagers state that water passes over the road. The catchment of this tank is three square miles, and the overflow passes into the Government tank below, called the Dholakhera Tank. The catchment area of this latter tank is 2¼ square miles, and this catchment should be sufficient to fill the Government tank in an average year without the overflow from the Bara Talab. If this is the case I propose to raise the Bara Talab to store the available water-supply from its own catchment area of three square miles. To do this a new portion of bund will be constructed parallel to the main road, as shown by red line on the map, until the necessary level is reached, as has been done in the Mangliawas tank. There is a good rocky site for a natural surface weir at the west end of the tank. As there is a lot of land below this tank fit for cultivation, the *raising* and *repairing* of this tank should be of considerable benefit.

7. Proceeding towards Liri we come to Tank No. 8, called the Dudalia Talab. This tank irrigates some 200 bighas for *Kharif*, and there are several wells in the bed and below the bund, which irrigate by lift for the *Rabi* crop. This tank fills in ordinary years, and the overflow passes into the Kharwa tank. Nothing is necessary here.

8. Near Amargarh are two tanks, Nos. 10 and 11, the Ram Sagar and Bhojajal. In both these cases the tanks have been formed by filling in a gap between the rocks with a masonry bund, and both are in good condition and fill in an average year. The overflow from both these tanks runs into the Lambana Tank No. 9.

9. Near the village of Liri there is a tank called the Bhangawala Tank, No. 12. This does not fill in an average year, and although parts of the

bund are of doubtful section it does not breach, and as the bund is of short length it can be kept in repair by villagers.

10. Near the village of Gangara is Tank No. 13, the Gangara Talab. This tank fills in an ordinary year and is in good condition.

11. In this drainage area the catchment areas are all utilized, and beyond the proposals made for improving the existing tanks nothing is possible.

DRAINAGE AREA No. 6.

1. This drainage area forms the catchment area of the Government tank, called the Niaran Tank, and this tank just fills in an average year. So the only thing possible in this drainage area is to repair those existing tanks that may need repairs, keeping their weir level at the same height at which they now are.

2 On the west of this drainage area, near Mailan, there is Tank No. 15, the *talab* Barwala in Kharwa territory. This tank fills in ordinary years and is in good condition.

3. To the west of this tank, is Tank No. 14, Talab Dara. The dam of this tank is partly in Kharwa territory and partly in Masuda territory. Apparently originally over 20 years ago Masuda owned half the dam and Kharwa half, and they shared the water. This naturally led to disputes. The boundary between the two estates was then settled by the Assistant Commissioner, namely, that from A to B, as shown in sketch, was to belong to Masuda, and from B to C was to belong to Kharwa; and he suggested that Masuda should be entitled to use two-fifths of the water stored in the tank and Kharwa three-fifths. The Rao of Kharwa then repaired his portion B to C, and it is in very good order, consisting of a *pucca* masonry face wall with *pucca* sluice and weir, supported behind by a strong earthen embankment. The Masuda portion is practically a dry stone wall with no earth backing, consequently when the tank filled it leaked very badly at this point. The Rao of Kharwa then constructed an earthen bund some 5 years ago (B D) so as to store water from his own catchment, but did not build the bund to such a height as to store water up to the weir level of the tank. This bund breached, and since then Masuda has objected to this *kachcha* bund being rebuilt. The Rao of Kharwa has offered 23 bighas of land near the village of Motipura, on the boundary of the two estates to Masuda, in exchange for the small portion of the bund now belonging to Masuda, and the right of the use of all the water in the tank when it fills. If this is agreed to, this would be a good arrangement, as the Rao of Kharwa could repair the small portion of the bund now belonging to Masuda in the same way that he has already repaired his own portion, and the tank would then be a good one, and there would be no chance of further disputes arising. Failing this I would suggest that the Rao of Kharwa be allowed to make a *pucca* bund along the line B D, where the breached *kachcha* bund now is, and use the water from his own catchment, which is by far the larger portion of the total catchment. The Masuda Estate might then repair their own portion of the dam, obtaining water from their own catchment. Each estate would then be independent of each other, and could irrigate their respective land on different sides of the nullah from separate sluices. I would suggest that the matter be settled definitely as soon as possible, so as to avoid the further wastage of water in future years.

4. South of this tank is Tank No. 9, the Repton Sagar, belonging to Masuda, consisting of a *pucca* masonry bund in good order. Nothing is required.

5. South-west of the village of Kiriap is Tank No. 1, the Hira Sagar, owned by Masuda. This is practically a naturally-formed tank with only two

small lengths of bund. The waste water at present passes over a large area of low ground at one side without forming a nullah, and consequently no weir has been required, but it was suggested that a bund might be made across this portion of land now acting as a weir, so as to store more water and provide a weir elsewhere. The overflow passes south towards Manpura, so the question of raising this tank will be gone into when the Masuda Drainage area is investigated.

6. Near the village of Salamela is a small tank (No. 5), called the Ram Sagar. Nothing is required to be done to this tank.

7. Near Jamola are tanks No. 4, the Talab Morna and No. 8, the Talab Gaonwala. These are small tanks and nothing is required to be done.

8. North of this is Tank No. 2, the Ranjit Sagar, built some 11 years ago. This tank is at present breached, and has breached and been repaired before. The tank consists of an earthen bund partly with a face-wall; the earth is not good for bund construction. The breached portion requires to be carefully mended with good soil, and parts of the bund where weak require to be strengthened, and parts require to be raised. A weir should also be constructed. A survey will be made for this, and plans and estimate prepared. These four tanks mentioned, starting from para. 7, belong to the Thakur of Jamola, and he does not at present seem very desirous of availing himself of any help from Government in repairing his tank No. 2.

9. To the north of this is Tank No. 17, the Naya Talab, near the village of Lachmangarh, owned by the Rao of Kharwa. This tank fills in ordinary years and nothing is wanted.

10. North of this again, near the village of Nasun, is Tank No. 16, the Kalian Sagar. This tank is owned by the Thakur of Nasun. The bund consists partly of a *pacca* face-wall, the earthen backing to which has worn away, and partly a plain earthen embankment. Earthen backing is badly required to the face-wall and the rest of the bund wants strengthening. However, the Thakur Sahib does not want the Government to help in any way, and would prefer not to have a survey made, so nothing will be done here.

11. The remaining tanks in this drainage area belong to the Thakur of Bagsuri. Near Baneora is Tank No. 12, called the Talab on Brigchiawas Road. This is a small tank and nothing is required to be done.

12. Close to this tank is Tank No. 9, the Talab Bhom. One end of the bund is of very weak section, and I have explained to the Thakur Sahib how this should be repaired.

13. Near this tank is Tank No. 8, the Kala Talab. Portions of the bund are in good condition and portions are of weak section, as well as being in need of repairs. I have explained to the Thakur Sahib how to carry out the repairs.

14. Tank No. 11, the Barwala Tank, consists of an earthen bund with *pucca* sluices. The bund has not breached, but is of weak section throughout. The sluices also want repairs. I suggested to the Thakur Sahib that the strengthening of this bund would be a useful work to be taken up during famine. As the repairs to these latter tanks are all petty I am not having surveys made or estimates prepared.

15. Near Bagsuri itself is Tank No. 13, the Village tank. This is in good condition.

16. Tank No. 14, the Budh Sagar, consists of an earthen embankment with *pucca* weir and sluices. The bund is in good condition, with the exception of rat holes, which require filling in. There are also many thorn bushes both on the front and rear slopes of the bund and also on the top of the bund. These bushes should be removed, as rat holes are generally to be found round the roots of these bushes.

17. South-east of this tank there are three tanks Nos. 17, 16, 15, Narharpura, Jhal Sagar, and Usar Talab. With the exception of petty repairs being required they are in good condition.

DRAINAGE AREA No. 6 A.

1. In this drainage area there is no possibility of constructing any new tank, and any overflow that there is from existing tanks passes into the Government tank, called the Jhagpura tank.

2. Near Dholadanta village is the Dholadanta tank No. 7. This is a small tank that just fills in an average year, and requires no improvement.

3. To the east of this tank is Tank No. 10, the Piplia Talab. This also just fills in an average year, and requires no improvement.

4. The remaining two tanks of importance in this drainage area are (1) the Kishen Sagar tank No. 6, which is a good-sized tank with a *pucca* masonry face-wall, is in good condition and does not fill in an average year; and (2) the Talab Moria-ki-Rel No. 5, the overflow from which goes into the Kishen Sagar. This tank consists of an earthen bund which has breached and been repaired but breaches every year. A survey will be made and an estimate prepared for strengthening the bund, supplying sluices and a waste weir.

DRAINAGE AREA No. 7.

1. To the west of this Drainage Area in Kharwa territory, near the village of Chaondia, there is Tank No. 18, the Barwala Talab. This tank does not fill in ordinary years and is in good order.

2. To the east of this tank, near Amargarh, in Bandánwara territory, are tanks Nos. 1, 2, and 3, named respectively, Bara Talab, Naya Talab and Ranjit Sagar. The Bara Talab fills in good years; it is weak in section, but the Rao Sahib will carry out repairs, and does not require an estimate to be prepared. The dam of the Naya Talab is also of very weak section, but it has not breached, and the tank does not fill in an average year. The Ranjit Sagar fills and overflows into the Akho Sagar Tank No. 5, in ordinary years. The bund is weak in section, but the Rao Sahib will strengthen this himself, and does not require an estimate to be prepared.

3. Following along this nullah, intercepted by the Ranjit Sagar, a weir was proposed by Mr. Manners-Smith at Site A, and an estimate was prepared for constructing this weir and constructing a feeder from it to Tank No. 4, the Surajpura Tank, filling the Nadi of Hathipura on the way (the line of the feeder is shown by a red line on the map), and heightening the Surajpura Tank. The estimated amount for constructing the weir and feeder amounted to Rs. 2,400, for heightening and repairing the Surajpura tank, Rs. 7,000. The Rao Sahib of Bandanwara has lately objected to the estimate on the following grounds: He states that the Surajpura tank in average years fills to its present weir level from the overflow of tanks Nos. 6 and 7, and there are only some 40 bighas of land available for culture below the Surajpura tank other than what is cultivated already, so he does not consider it advisable to spend money on raising the Surajpura tank. However, the weir and feeder would be useful to fill the Nadi and Surajpura Tank in bad years, when there was no overflow from Tanks Nos. 6 and 7. On examining the ground I find there is a lot of land suitable for cultivation below the Surajpura Tank, and I think it would be advisable to carry out the project as designed by Mr. Manners-Smith. However, I will have a flying survey made to see how much good land there is available for culture, and the Rao Sahib can then determine whether he considers it advisable to carry out the project as it stands or simply to construct the weir and feeder.

4. South of this site is Tank No. 5, the Akho Sagar. This tank breached last year, but has since been repaired. One portion of the bund is of weak section, and I have told the Rao Sahib how this should be strengthened.

5. Near the village of Bandanwara are Tanks Nos. 6 and 7. Tank No. 6 is in good condition. The Rao Sahib has just built a new sluice, and as the bed level of the tank is above that of Tank No. 7, he desires a water-course from Tank No. 6 to be taken over that of Tank No. 7, and the right alignment to be determined. A survey will be made for this purpose. Tank No. 7, the Suraj Sagar, is in good condition as regards stability, but this tank leaks badly, apparently through the face-wall and under the foundations. Trial pits will be dug during the hot weather, and it will then be determined how best to try and stop the leakage.

6. At the commencement of the branches of the nullah which feeds Tank No. 7 at Bandanwara, are Tanks Nos. 17, 19, 18, named respectively the Kheri Talab, Dand and Partabpura. The first of these tanks (No. 17) is on the whole in good condition, but

at one end the section of the bund is weak and requires strengthening; it breached at this point last year and has since been repaired. The Rao Sahib states that he will further strengthen it, and as it is a small work does not require an estimate to be made. The second of these tanks (No. 19) also breached last year, and consists of an earthen bund with no *pucca* sluices or weir. The section of the bund is weak in places, which the Rao Sahib is about to strengthen, and does not require an estimate to be prepared for improvements. The overflow from this tank goes into the third tank, mentioned No. 18. This latter tank also breached last year, but has since been repaired, and is now in good condition.

7. In the drainage area of the nullah flowing into Tank No. 6, are Tanks Nos. 13, 14 and 15, near the village of Pranga, and named respectively Nadi of Chamars, Bara Talab and Sahal Sagar. No further use can be made of this nullah, as all the water available is required by Tank No. 6. Of these tanks mentioned, No. 13, the Nadi of Chamars, is a small tank which does not fill in an average year, and requires no improvements. No. 14, the Bara Talab, is a large tank with masonry face wall and earthen backing, filled from its own catchment and by a feeder from the Sahal Sagar, No. 15. The tank leaks very badly, otherwise it is in good condition as regards stability. When there is a lot of water in the tank the leakage is quicker than when the water level goes down; this I consider due to leakage through the rock at the north end of the bund, which is part of the natural portion of the dam; but the tank also seems to leak through the face-wall in parts and underneath the foundations. The earthen bund also seems to have been made with a lot of lumps and clods left unbroken in it, which would add to the leakage. Trial pits will be made during the hot weather to see the foundations, after which it will be determined how best to try and stop the leakage. Tank No. 15, the Sahal Sagar. The bund consists of an earthen embankment with a face-wall. The earthen embankment is too low and requires to be raised, otherwise the tank is in good condition. The Rao Sahib is about to strengthen the embankment.

8. North of this tank are Tanks Nos. 8, 9, and 12, the Rampura, Harkia Talab and Ajanpura. These tanks do not require any improvements.

9. To the west of these Tanks are Tanks Nos. 10 and 11 in Bhinai territory, called respectively the Naya Talab and Talab Barwala. The former of these (No. 10), is a good tank with a face-wall and earthen backing; it fills in an average year, but breaches owing to the earthwork at the back of the face-wall being too low, in parts being below the top of face-wall, and the top of the face-wall is level with the weir level in places, and in places only six inches above it. Consequently when the tank overflows the water passes over the top of the bund. A survey will be made and plans and estimate prepared for improving this tank. Tank No. 11, the Barawala Talab, also requires some improvements, the bund, consisting of an earthen dam, being in parts only one foot above weir level. A survey will be made and plans and estimate prepared for improvements.

10. Near the village of Golia is Tank No. 16, the Talab below village. This tank is in good order and requires no improvements.

11. Near the village of Keraunti are two tanks (Nos. 20 and 21), the Bhairon Sagar and Ranjit Sagar. Both these tanks are in good order and nothing is required.

12. To the north-east of these tanks, near the village of Girdhanpura, is a large tank belonging to Bhinai, Tank No. 22, the Chansira Talab. The bund consists of a masonry face-wall in good order with a backing of earth. The earth embankment is of weak section and the top of it is below the top of the face-wall in places, and the weir level is only two feet below the top of the face-wall. There is a *pucca* weir in good order, and *pucca* sluices. An estimate will

be made for strengthening the earthen bund behind the face-wall. The overflow from this tank feeds the Kitap Tank.

13. Near this tank is another tank belonging to Bhinai, Tank No. 23, the Daulatpura Talab. The overflow from this tank also flows into the Kitap Tank. This tank fills partly from its own catchment and partly by a feeder from a bund across the commencement of the nullah that feeds the Kitap Tank. The bund is marked B in red. The bund across the nullah is an earthen bund founded on rock which is at the surface, and it is breached. The feeder is partly in cutting and partly embankment; a portion of the cutting is in earth and a portion in rock, but in places this feeder is too small in section, and the water rises up and passes over the bund. I propose that this feeder should be made to proper section, allowing for a flow of two feet depth of water, with a slope of two feet a mile; that the bund across the nullah should be rebuilt, the front slope stone pitched with a core-wall founded on the rock surface, and a waste weir be made at the point X, the crest of this weir being at such a level that when the tank is filled and water begins to flow over its own weir, any surplus water entering the feeder, instead of passing towards the tank, will flow over this weir; that the present earthen bund of the tanks should be strengthened and built up to the proper height; that masonry sluices should be built (at present the earthen bund is cut through where a sluice is required), and that a waste weir should be built at the far end of the tank at point C. A survey will be made and an estimate and plans prepared.

14. Further down this nullah are two tanks, Nos. 25 and 24, the Naya Talab and Talab Chauranwala, belonging to the Rao of Bandanwara. The first of these tanks is in good condition. The second (No. 24) consists of a tank which does not fill from its own catchment. A weir was made across the nullah some 17 years ago (Site D) by the Rao Sahib, from which a cut was taken to feed Tank No. 24. However, the weir breached the year it was made, and the water passes round one end of it. This weir is still in disrepair. Meanwhile the Bhinai Estate have raised their tank at Kitap, which is also breached, and object to the weir being rebuilt by the Rao of Bandanwara, as they state that they presume the Rao of Bandanwara will raise the weir level of Tank No 24, and also take water from this tank to the Soorajpura Tank No. 4. This latter suggestion is impossible owing to levels. I consider that the Rao Sahib should be allowed to repair his weir across the nullah, and that Tank No. 24 should be repaired up to its present weir level, or slightly raised if this will not interfere with the filling of the Kitap tank in a year of average rainfall. This tank would then partly fill from its own catchment and partly from the feeder from the nullah The surplus water passing over the weir of Tank 24 would naturally flow along to the Kitap Tank. The Rao Sahib states that the weir was not repaired before, as he had other works on hand and was not sure what was the best way to reconstruct the weir.

15. North of these tanks at Kumharia are tanks Nos. 26, 27, 28, and 29 belonging to Bhinai, the Bara Talab or Ram Sagar, Barawala Talab, Naya Talab, Thultia Talab. Of these tanks No. 26 is a large tank with masonry face-wall and earthen backing, and a small weir and *pacca* sluices. The earthen embankment is too low and weak in places, and the weir is not of sufficient length; the sluices require to be rebuilt. In an average year the water passes over the top of the bund in places and passes into the Dain River. This tank irrigates but little land directly beneath it, most of the water being taken to help Tanks Nos. 27 and 28 to irrigate the land below them, the land thus irrigated stretching as far as the Dain River. I propose to repair and raise

Tank No. 26, so that this tank may utilise the water at present running to waste, and irrigate the land directly below it, which is at present unirrigated, except by some wells which quickly run dry. After this has been done the surplus water will help to irrigate the land below tanks Nos. 27 and 28. Tanks Nos. 27, 28 and 29 require some petty repairs, which the Bhinai Estate may carry out themselves without plans being made. The last-named tank (No. 29) is used for bed irrigation only, the overflow if any feeding another nadi below it. A survey will be made for enlarging Tank No. 26, and estimates prepared.

16. South of Kumharia and south of the Dain River are two tanks, Nos. 30 and 31, named respectively Nonaria and Sel Sagar, belonging to Bhinai. The former of these tanks is not used, as the Sel Sagar (No. 31) commands its bed and the land below it. This latter is breached in two places. It requires one new sluice, the other sluices being in good order, and the weir is also in good order, but it is not of sufficient length. The tank consists of an earthen bund of very bad soil, namely, usar earth, and it is constantly breaching. This tank now irrigates only 40 bighas, whereas it should irrigate over 800 bighas if repaired. The bund is a very long one and repairs will be expensive. At the same time I do not consider it will be of any use simply to repair the breaches, as the bund will be sure to breach again elsewhere. As it seems that rock is about two feet below the surface of the ground, it might be advisable to construct in the former case a core-wall or face-wall throughout, stone-pitch the front slope, and as moorum is obtainable here, the rear slope and top of the bund might be covered with rammed moorum, or covered with soil obtained from elsewhere on which grass will grow. A detailed survey will be made, and it will then be seen how the repairs may be best carried out.

17. On the east of this tank is tank No. 32, the Soonj Sagar, belonging to the Thakur of Kalianpura. This tank is in a very bad condition, but the Thakur considers that his tanks are in good condition, and objects to surveys being made or receiving any help from Government, so nothing further will be done.

18. North of this tank and north of the Dain River, near Kebania, are tanks Nos. 33, 34, and 35, the Usaria Talab, Kandolai and Sobagh Sagar, belonging to the Thakur of Kebania. These tanks are all connected to each other by sluices. All these tanks are of weak section in parts and require strengthening. A weir should be built of proper length, and new sluices. A survey will be made for this purpose, and the repairs to the three tanks treated as one project.

19. North of Kebania is a small tank No. 36, the Bhanki Nadi. Some petty repairs are required which the Thakur can carry out himself.

20. On the northern branch of the Dain River, close to the last-mentioned tank at Site H, there is a possible site for a weir to benefit the wells belonging to the same Thakur. Rock is exposed on one bank and in the stream, and excavations will be made on the other bank, and if satisfactory a survey and estimate will be made.

21. South of Site H is Tank No. 37, the Pirthi Sagar, belonging to the same Thakur, filled partly by its own catchment, but chiefly by a cut leading from a weir across the southern branch of the Dain River. The overflow from this tank passes into Tank No. 38, the Tawandia Talab. This latter tank is breached, but as there are no controlable head works, in heavy rains the water passes over the top of the bunds of tank No. 37. This tank is a large

shallow tank, and the bund is a low one with *pucca* masonry face-wall, the earthen embankment being weak in section in parts. It would be expensive to build up to proper section the whole of the bund, and as I consider the bund is quite strong enough to hold the water up to its present weir level and to allow of a one-foot flood discharge over the weir, I would propose the following:— That a weir be made for a one-foot flood discharge, calculated for the catchment area of the tank. The catchment area is small, so the weir would not be a long one. That where necessary the bund may be strengthened, and that head works may be built at the site of the weir, at the commencement of the present cut across the Dain River with controlable shutters, so that the flood discharge of the Dain River may be controlled, and that shutters of similar size be built at the site of the present small weir in this tank to feed Tank No. 38. This latter tank being repaired and strengthened where necessary and provided with a weir, calculated on the catchment area of Tank No. 37, and its own catchment area, the proceedings would then be as follows: The shutters at the head works would be opened and Tank No. 37 would fill mainly from the flood discharge of the Dain River and partly from its own catchment area, when filled to weir level the shutters for feeding Tank No. 38 would then be opened. These shutters would then pass the same amount of water into Tank No. 38 as would be entering at the head works. When tank No. 38 is full both sets of shutters would be closed. The only extra water that could then come into the tanks would be the water from the catchment area of the two tanks, which would be carried away by the weirs from both tanks. The reason for having the shutters to feed Tank No. 38 at the site of the present old Weir, instead of at the head works, is that by doing so the construction and maintenance of a long feeder channel will be dispensed with.

22. Following along the southern branch of the Dain River towards Kesarpura there is a possible site (E) where a weir might be constructed to benefit the wells at the sides of the river. The Thakur of Tantuti is anxious for this to be made. Rock is exposed on one bank, and in the bed excavations will be made to find out the depth of rock at the other bank, and if satisfactory a survey and plans will be made.

23. Near Tantuti on the west side is Tank No. 39. Petty repairs are required, but these may be carried out by the Thakur Sahib.

24. To the north-east of Tantuti is the Anand Sagar, Tank No. 40, fed by a cut from a weir across the Dain River. The overflow from this tank passes into a tank known as Nadi Jhela next to it, thence into tank No. 41, the Gulab Sagar, and finally into the Chatter Sagar. The Nadi Jhela leaks badly through its bed, and the Thakur Sahib desires to connect Tank No. 40 directly to Tank No. 41. I propose therefore to have a survey made to strengthen Tank No. 40 and heighten it one foot, building necessary sluices and weir, with a feeder direct to Tank No. 41. This tank requires strengthening and sluices but does not require a weir, the water passing over the natural surface at the far end into a small tank called the Chatter Sagar. The lower part of the Jhela Nadi will then be irrigated by tanks Nos. 40 and 41. The head works, which are *katcha*, also require to be fitted with proper shutters.

25. Tank No. 42, near Tantuti village, does not breach, but is of weak section. The Thakur Sahib desires to raise this bund. If water is available this might be done, at the same time strengthening the bund to proper section, building sluices and a weir at the east end with a feeder to Tank No. 43.

The Thakur also desires to raise this latter tank. If water is available this may be done; in any case this tank requires strengthening, a weir and sluices.

26. To the south-west of this tank is Tank No. 44, the Ram Sagar, belonging to the same Thakur. This is an unimportant tank and nothing is required.

27. To the east of this is Tank No. 45, the Bura Talab, belonging to Bandanwara. The section of the dam is weak, but the Rao Sahib is about to strengthen it.

28. South of this tank is Tank No. 46, belonging to the Thakur of Jotayan. This tank has lately breached and is in need of reconstruction, but the Thakur does not consider it worth while to spend much money on this tank, as it does not now fill in an average year of rainfall, for the following reasons: The Rao Sahib of Bandanwara three years ago constructed a nadi shown by a blue line, with a feeder shown by a red line, running to Tank No. 45. This has intercepted a fair-sized portion of the catchment area of Tank No. 46, the feeder to this latter tank (also shown by a red line) only now catches the surface water on the south of the dam built by Bandanwara, instead of intercepting a lot of the water off the hills as formerly; this water now being stopped by the bund of Bandanwara.

29. North of this there is a good site on the Dain River for making a weir to benefit the wells at the side of the river, Site F. The Rao of Bandanwara is anxious to have this weir constructed, as he has many wells both below and above stream at this point. A survey and estimate will be prepared. There is also a possible site at G for a weir for the same purpose. Excavation is being made to see the depth of rock below the surface on one bank, rock being exposed at the other bank, and if satisfactory a survey and estimate will be made.

30. North of this site and north of the Dain River is Tank No. 47, the Bara Talab at Ganeshpura, belonging to Bandanwara. There was an original proposal made by Mr. Manners-Smith to feed this tank and also Tank No. 55 north of it, from a weir to be constructed at Kesarpura; but it was found that levels prevented a feeder being taken to this latter tank, and it was too expensive to construct the weir to feed only tank No. 47. Consequently the proposal was abandoned. This tank (No. 47) requires repairs and improvements in the shape of a new weir of proper length, sluices, and building up the earthen dam to proper section. A survey and estimate will be prepared.

31. Close to the last-mentioned tank is Tank No. 48, the Modia Talab, belonging to Badanwara. This tank requires petty repairs only.

32. Near Goela is Tank No. 49, the Raj Sagar or Bara Talab, belonging to Goela. This tank consists of an earthen bund which breaches. It requires repairs, strengthening and a new weir and sluices. A survey and estimate will be prepared. The Goela Estate is under the management of the Court of Wards.

33. There are four other tanks near Goela (Nos. 50, 51, 52 and 53), named respectively Gandalao Dand, Nadi Sojana, Naya Talab and Amartia. These tanks do not require anything beyond petty repairs.

34. North-west of Goela, near Sarana, are three tanks belonging to the Saranа Estate, now under the management of Court of Wards, Nos. 54, 55, and 56. Tank No. 54, the Sheo Sagar, is breached in five places. It consists of an earthen dam of bad soil and very badly built. I consider the only thing possible is

to build in a core or face-wall, reconstructing the bunds to proper section and providing a weir and sluices. A survey and estimate will be prepared. Tank No. 55, the Bara Talab, was raised and extended during the last famine. The extension breached when the water level was two feet below weir level in the tank. The earth is not good, and the breach requires to be carefully repaired. Tank No. 56, the Gopal Sagar, is in good condition.

35. North of these tanks there is Tank No. 59, the Bhairon Sagar, which belongs to the Thakur of Shokli, and is in good condition. The Thakur Sahib desired to bund the nullah below this tank, but this would interfere with the Sarana Tank No. 56.

36. To the east there are three tanks belonging to the Thakur of Shokla, Nos. 60, 61 and 62, called Takholao, Kandera and Charma, respectively. No. 60 requires repairs, but the Thakur Sahib, though informed several times, did not come to see me or give any information about his tanks, and he requires no help from Government, so no surveys will be made.

37. To the west of Shokla, near the Piprol, are two tanks belonging to the Thakur of Barli, Nos. 58 and 57. It was thought possible to take a feeder from proposed weir at H to tank No. 57, but levels would not allow of this. I thought it might be possible to construct a weir across the nullah near Hanvantia and take a feeder into Tank No. 58, doing away with Tank No. 57. There are very good sites for weirs at Hanvantia (Site K), but the land between this site and Tank No. 58 is all rock, and though the levels would serve, the cost in blasting would be prohibitive, so nothing is possible.

DRAINAGE AREA No. 7 A.

1. Starting at the east of this drainage area is tank No. 72, the Bhairon Sagar, belonging to the Thakur of Sholian. Nothing is required for this tank except ordinary pucca sluices, which the Thakur Sahib can put in himself if he desires.

2. To the north of this tank a new tank is under construction by the Thakur of Tantoti, called the Shergarh Tank No. 71. I visited this tank with the Thakur Sahib, as he wanted some advice on the construction of it.

3. To the west of this tank is Tank No. 70, the Debi Sagar, owned by the Thakur of Tantoti. This tank requires nothing but petty repairs.

4. Near Shergarh village are two tanks belonging to the same Thakur, both of which require repairs, Nos. 73 and 74, called respectively the Bhabhat Sagar and Gulab Sagar. Tank No. 73 is a large tank with a weak masonry face-wall and weak earthen embankment behind it. It breached last year and has since been repaired. It also leaks through the face-wall and requires building up to proper section, possibly its weir lengthening, and an earthen front slope with pitching in the deepest parts. A survey will be made for improvements to this tank. Tank No. 74 is a small tank of very weak section and it generally breaches. The Thakur Sahib states that the tank if not breached, easily fills in a year of average rainfall, the overflow passing into tank No. 73, which also fills easily. A survey will be made and an estimate prepared for constructing a weir, pucca sluices, and strengthening the bund and raising the present weir level as much as is possible. There is a lot of land which could be irrigated below this tank.

5. Near Arwar are three tanks Nos. 67, 66, and 65, called respectively Kadolai, Karni Sagar and Bara Talab, belonging to the Thakur of Arwar. The first of these (No. 67), is a very small tank, and the water leaks through the bed, and the Thakur Sahib has made a feeder in front of this tank to lead water into No. 65, the Bara Talab, but as levels were not taken this feeder has been of no use. Tank No. 66 is also useless except for lift irrigation, as the land below it is too high for cultivation. No. 65 is a good tank, but requires pucca sluices. As the Thakur is very badly off he is unable to construct them at present, but he desires to bring more water by means of a cut into the tank, as shown by a red line. I will have levels taken of the ground here, and if it is possible for a feeder to be of any use, the correct alignment of it can be determined. Beyond doing this I do not consider it possible to improve his tanks.

6. To the west of these tanks are tanks Nos. 63 and 64, near the village of Barla, belonging to the Rao of Bandanwara. No. 63, the Gaj Sagar, has lately been built by the Rao Sahib and is in good condition. No. 64, the talab below village, is also in good condition, but requires pucca sluices, which the Rao Sahib should construct.

7. Near Baori are tanks Nos. 68 and 69, called respectively the Bijai Sagar and Bara Talab. They require improvements in the shape of strengthening the

bunds, building a weir of proper length and pucca sluices, but the Thakur of Baori does not require any help from Government, and says he would prefer to carry out any improvements he considers necessary himself.

8 At Kotri is tank No. 75, which is breached, belonging to the Thakur of Kotri. It requires repairs, and a survey will be made for this purpose.

DRAINAGE AREA No. 8.

1. At the commencement of the large nullah (eventually flowing into the Dain River), near Chaondia, on the west of this drainage area, is the Chawind Sagar No. 86, belonging to Bhinai. This tank has a *pucca* face-wall for its whole length, but the earth backing is of very weak section. This should be strengthened and a weir of proper length should be constructed. The sluices require arching. An estimate for this will be prepared.

2. Dealing with this large nullah, the tanks at present utilizing its water are (1) the Chawind Sagar No. 86; (2) the Bara Talab at Barla, No. 103. The overflow from this helps to fill Tanks Nos. 122 and 123 at Kairia, all of these tanks belonging to Bhinai; (3) Tank No. 112, the Man Sagar, belonging to Jotayan, and (4) Tank No. 114, the Naya Talab, belonging to Kishangarh. At present the tanks are filled in the following manner:—

Tank No. 86 at Chaondia fills in indifferent years, and irrigates some 400 bighas of land beneath it. The Barla Tank (No. 103) is filled from a feeder taken from a weir across the nullah. The nullah has divided itself into two before reaching this weir, and it is stated that about one-third flows over the weir which is across one part of the nullah, and is taken into tank No. 103, the remaining two-thirds flowing down the other portion of the nullah towards the Jotayan tank. When tank No. 103 fills, of the water that flows over the weir of the tank, part flows into Tanks Nos. 122 and 123 at Kairia, and fills them, and the rest flows over the country in the overflow nullahs shown on the map till it meets the main nullah and thence into Tank No. 114 of Kishangarh. These tanks irrigate most of the available land below them and fill in bad years. There are no head works at Barla, and as the weirs of the tanks are not of sufficient length to cope with the flood discharge from their own catchment area, without taking into consideration the flood discharge of the portion of the nullah by which they are being fed, the tanks breach and are always in danger of breaching. Tank No. 112 of Jotayan fills in indifferent years, but does not irrigate all the land below it. The Thakur Sahib wanted to build a new tank below this one, to irrigate some more of the remaining culturable land, shown by the red line, stretching from the high ground east of Jotayan across the three nullahs, and ending just in front of tank No. 114 of Kishangarh, and Kishangarh objects to this. The Kishangarh tank No. 114 fills in indifferent years and irrigates, together with tank No. 115, 600 bighas at most. My proposals for the nullah are as follows:—

1. As already stated an estimate will be prepared for improvements to the Chawind Sagar of Bhinai, No. 86.

2. Below the Chaondia tank, near Tilara, is tank No. 87, of Bhinai. The tank is in bad repair. I propose to extend this tank across the nullah as shown at A, to the high ground on the other side. There is land for irrigation on the east side of the tank, and the land can be irrigated down to the well-irrigation at Tilara, and in addition there would be large bed-irrigation. The catchment area of the tank as proposed in shown in red dotted lines. Below Tilara well-irrigation extends to Sol Choti. There are good rocky sites at B and C for weirs near Sol Bari. The latter being the best site, I propose therefore to construct a weir at site C to benefit the wells up stream, in Bhinai territory. With regard

to the Barla Tank of Bhinai, I propose that head works should be constructed at the commencement of the feeder from the weir across the nullah; that the tank itself and the feeder be repaired as may be necessary and a weir of sufficient length be provided, which will be capable of discharging the flood discharge from its own catchment area, and also the same quantity of water as can enter at the head works, a cut being made as shown by the red line to the Kairia tanks; that these tanks should be repaired as necessary and supplied with a weir of sufficient length to carry off the flood discharge from their own catchment area, and also to carry off the same amount of water as can enter by the feeder. The proceedings would then be as follows:—

The shutters at the head works would be opened: when Tank No. 103 filled, the same amount of water entering at the head works would pass over the weir and down the feeder to the Kairia tanks. When the tanks at Kairia filled, the headworks would be closed, but as some time might elapse before this was done, the weir of these tanks would be sufficient to carry off the water entering from the feeder, together with the surplus water from their own catchment areas. It should now be possible to raise Tank No. 112 of Jotayan, so as to irrigate more of the available land beneath it, instead of constructing a new tank as the Thakur suggested, because now as soon as tanks Nos. 103, 122, 123 are filled or very shortly afterwards, the head works will be closed, and all the water will pass down the main nullah to the Jotayan tank No. 112 before passing into the Kishangarh tank, instead of a large portion of the nullah water passing over the weirs of Tanks Nos. 103, 122, and 123 direct to No. 114. I propose therefore to raise the weir of Tank No. 112 and build head works, so that when this tank fills the rest of the water will pass down to the Kishangarh tank No. 114. The Kishangarh Estate will of course object on the ground that their tank will not fill, but the following will give a fair idea of the water available (I propose also to have discharges taken this rains below Khera, where the overflow nullahs from tanks Nos. 103, 122 and 123 meet the main nullah). Tank No. 86 may be assumed to fully utilize the water from its own catchment area shown in red dotted lines. Tank No. 87, if enlarged as proposed by me, may be assumed to fully utilize the water from its catchment area.

Tanks Nos. 89 and 88 may be assumed to utilize the water from their respective catchment areas. (I have proposed to raise the weir level of No. 89 in a later paragraph). The green dotted line now shows us the unintercepted drainage areas (with the exception of small nadis, which may be neglected), first up to site of weir which feeds tank No. 103, secondly from this site up to the site of weir which feeds tank No. 112. The drainage area of the nullah up to the site of tank

No. 103	=17¾	square miles.
Add to this the catchment area of tank No. 103 shown in red dotted line	1½	do.
Add to this catchment area of two Kairia Tanks Nos. 122 and 123	7	do.
Total ...	26¼	do.

The average rainfall at Bhinai for the last 22 years is 20·4 inches, taking a medium run-off of 10 per cent. The yield in an average year from this total catchment is 125 million cubic feet. The Barla Tank irrigates some 500 bighas and the Kairia tanks some 600 bighas at most, allowing one million cubic feet to irrigate ten acres, as per experiments in Rajputana, including wastage from absorption and evaporation. This gives us 44 million cubic feet required for the 1,100 bighas; deducting this from 125 million cubic feet, this leaves 81 million cubic feet; add to this the yield available from drainage area of nullah from D to E of 4¼ square miles, which is 20·23 million cubic feet, and this gives 101·23 million cubic feet available at E (neglecting the catchment area of tank No. 112 which

is small). The present Jotayan Tank (No. 112) irrigates at most 400 bighas, *i.e.*, 16 million cubic feet of water are required. Deducting this from 101·23 there is left over for tank No. 114, 85·23 million cubic feet; add to this the yield from the catchment area of Tanks Nos. 115 and 114 of 5 square miles, which is 23·8 million cubic feet, and we have the total of 109·03 million cubic feet available for Tanks Nos. 114 and 115. These tanks may be put down as irrigating together 600 bighas, *i.e.*, 24 million cubic feet of water is required, which leaves over 85·03 million cubic feet of water surplus. From this it will be seen that Tanks Nos. 115 and 114 should fill in average years from their own catchment area, and that there is 85 million cubic feet of water available for further use at Tank No. 112. These are only rough deductions, but detailed surveys will be made, the actual capacities of the tanks will be determined by survey, and the discharges of the nullah taken during the rains.

3. With reference to the Naya Talab No. 114 of Kishangarh at Santola, it is at present breached. There is not sufficient provision made to carry off the surplus water when the tank has filled, and consequently the water rises in the tank till it breaches. A small weir was first constructed, and after the tank had breached another weir was constructed with wooden shutters in it. The tank has now breached again between the two weirs. Possibly the best way of repairing the breach would be by joining the two existing portions of weir making one long weir and constructing low-level shutters in the new portion of the weir, which could be opened as necessary when there was danger of water rising too high in the tank. Tank No. 115, the Kala Talab, belonging to Kishangarh, also requires repairs, its earthen embankment wants strengthening, and it requires sluices and a weir. Tank No. 16, the Talab Pivina, belonging to Kishangarh, is a small tank which requires no improvements.

4. South of Bhinai is tank No. 89, the Suraj Sagar, which belongs to Bhinai. The overflow goes into tank No. 88 at Sobri, also belonging to Bhinai. Both tanks fill in average years and overflow. As there are two hundred bighas of land below the Suraj Sagar that might be further irrigated, I propose to enlarge this tank to irrigate this land; its weir also requires lengthening. A survey and estimate will be prepared.

5. At Sobri, as just mentioned, is tank No. 88, the Deo Sagar, belonging to Bhinai. Its weir requires lengthening, and it is in need of other repairs. An estimate will be prepared for this.

6. South of this at Ghana are two tanks belonging to Barli, the Bhontia (No. 101) and the Talab Pangata (No. 100). Nothing is required to be done to these tanks.

7. East of this at Khaira are two tanks Nos. 98 and 99, belonging to the Thakur of Deolia, called respectively Karni Sagar and Sadul Sagar. The Karni Sagar has breached; it requires a weir, sluices, and the bund requires strengthening. An estimate will be prepared for this. The Sadul Sagar requires petty repairs, which the Thakur of Deolia might carry out himself.

8. South of Sul Bari is a tank called the Naya Talab, No. 102, which is in very bad condition and is breached in several places. I propose to extend the bund as shown by the red line on the map and repair the tank. There would then be a large bed for cultivation, and there is a lot of land irrigable on the north-east side. This tank belongs to Bhinai, and an estimate will be prepared.

9. East of Bhinai are three tanks belonging to Bhinai, Nos. 96, 97 and 95, called respectively Purana, Naya Talab and Piploda Tank. The former two

tanks are combined, and a feeder goes into the tanks as shown by the blue line. A new weir is required; this should be built of sufficient length to take off the flood discharge of both tanks and also the feeder water. The best site for this is at the south-end of the Naya Talab, where there is good rock foundation close to the surface. The bund also requires strengthening and other petty repairs. A survey and estimate will be prepared for this. Tank No. 95 requires no further improvements, but it leaks through the face-wall; the place of leakage has been located, and the Bhinai Estate should have the wall opened and repaired properly at this point.

10. North of this, near Dantol, are two tanks belonging to Bhinai, Nos. 90 and 91, the Rani Sagar and the Kala Talab. The former of these tanks requires strengthening and a new weir; an estimate will be prepared for this, and the latter of these tanks is a small tank and beyond petty repairs requires nothing.

11. At Richmalia another nullah commences, which flows into the Dain River, joining the large nullah beforementioned, north of Santola. There are no possibilities on this nullah, as the water is already fully made use of. Tank No. 94, the Bijhi Sagar, belonging to the Thakur of Richmalia, has breached and wants repairing. A survey will have to be taken, and it will then be seen how best the tank may be repaired. The earth is very bad, and the ground is very much broken owing to water passing through different breaches. The Thakur is very anxious for this to be repaired.

12. Tank No. 93, the Pangatia Talab, requires a weir, new sluices and the dam should be heightened. A survey and estimate will be made for this. This tank also belongs to the Thakur of Richmalia.

13. The Man Sagar (No. 92), belonging to the same Thakur, is a small tank and requires no improvements.

14. Tank No. 104, the Bhairon Sagar, belonging to the same Thakur, breaches owing to the water rising too high in the tank. A survey will be made and an estimate prepared for strengthening the dam, and building a weir and sluices.

15. At Rugnathgarh are tanks Nos. 106, 107 and 108, called respectively the Jhela, Bara Talab, and Sham Sagar, belonging to the Thakur of Rugnathgarh. Tank No. 106 is filled from a feeder taken from a weir across the nullah as shown on the map, site H. The tank breaches and is of weak section. It requires to be rebuilt up to present weir level and provided with sluices. An estimate will be prepared for this. Tank No. 107, the Bara Talab, is a small tank and requires no further improvements. Next to this tank is tank No. 108, the Sham Sagar, which has breached, due to rat-holes, otherwise the embankment is in good order. It is only necessary for the Thakur to mend up the breach and repair the bank when fresh rat-holes are formed.

16. Tanks Nos. 105 and 110, called respectively the Talao Khera and Ram Sagar, belonging to Jotayan, are small tanks which require no improvements.

17. Tank No. 111, the Pivina Talab, and No. 109, the Dhoraman Talab, also belong to the same Thakur. As shown by the map, tank No. 109 is filled by a feeder from a weir across the nullah, site G. The remainder of the water that passes over this weir and does not enter the feeder is stopped by another small weir further down stream, and enters the Pivina tank No. 111. Tank No. 109 breaches in heavy rains owing to the weir being too small. There is no suitable position for building

a weir in the bund of the tank itself, and as the overflow from the present weir does damage below, the Thakur Sahib desires some other arrangement. I propose that the bund be extended to the weir across the nullah, and the weir across the nullah treated as the weir of the tank, *i.e.*, it should be sufficient to carry off the flood discharge of the nullah together with that of the catchment area of the tank. After tank No. 109 has filled the surplus water would pass over the weir down the nullah to the weir at F, where it would be diverted into the feeder to Tank No. 111, and when this tank is filled the feeder can be closed, and the surplus water would pass down the nullah doing no damage. A survey and estimate will be prepared for this, and for petty repairs to Tank No. 109. Tank No. 111 needs no repairs.

18. North-east of this tank is Tank No. 113, the Dand Talab, belonging to the Goela Estate. Apparently there must have been a former proposal to feed this tank from the Dain River by means of a weir at site J, as there are same *pacca* bench marks still to be seen. This would be a good project, as the tank could be enlarged and could irrigate the land stretching to the junction of the Dain River and the main nullah of this drainage area, which is all good culturable land. The Kishangarh Estate are certain to object to this, as their canal starts some three miles below the proposed weir, but there should be sufficient and more than sufficient water in an average year to fill the Goela tank and the Kishengarh tanks, as up stream north of Tantoti is the first place where a weir is used for filling tanks, and the north branch of the Dain river meets the main river at Kesharpura below these weirs My other proposals for weirs in this River were only for the benefit of the wells, and would not affect the flood discharge of the river. I propose to have discharges taken of the Dain River this year just below the canal of Kishangarh, so that the discharge may be arrived at after the Kishangarh tank has been filled. A survey will be made for enlarging the Goela tank and constructing a weir across the river.

19. On the east of this drainage area is a nullah passing near Khandra, joining the main nullah near Digaria. At Khandra are two tanks No. 118, the tank below village, and No. 121, the Suraj Sagar, belonging to Barli. Beyond petty repairs these tanks do not require improving. The former of these tanks irrigates the available land beneath it, and is fed by a cut from the nullah, as shown on the plan. There is a good site as shown at site L to extend this tank across the nullah; but part of the tank thus formed would be in Santola territory, *ie.*, Kishangarh, and part in Barli territory, which would be unsatisfactory, and the land on the Kishangarh side of the nullah is mostly *Usar*, and the land below tank No. 118 is already irrigated, so it is no use taking advantage of this site. Lower down the nullah at site K there are the remains of an old weir. A fresh weir might be built here and a feeder taken to Tank No. 117, the Devi Sagar, belonging to the Thakur of Jaitpur, which might be enlarged to irrigate some 1,000 bighas of land available for cultivation below it. This should be a useful project. A survey and estimate will be prepared. The Thakur of Jaitpur is anxious for this project to be made. The only difficulty will be, that the portion of earthen dam necessary on the west side of the nullah at the site of weir will be in Kishangarh territory; but as the land here is all *Usar* there should be no objection, and by building the weir some wells of Kishangarh higher up stream will benefit, and the land on which water is held up by the weir and bund will be able to be cultivated.

20. At Jadhana are two tanks, belonging to the same Thakur, Nos. 120 and 119, the Naya Talab and Bara Talab. The former of these is in bad condi-

tion, and a survey and estimate will be prepared for repairing and strengthening the bund, building a weir of proper length and sluices. No. 119 is a small tank, and the Thakur will carry out the petty repairs required himself.

21. South of the last-mentioned tanks at Nagolao are four tanks belonging to the Thakur of Nagolao, Nos. 124, 125, 127 and 126, called respectively the Bara Talab, Bala Sagar, Deo Sagar and Talab Lorkar. All of these tanks are in bad condition and have breached, and require strengthening and other improvements; but the Thakur Sahib does not desire any help from Government, and does not want any surveys to be made, so nothing will be done.

22. Near Piplia are two tanks belonging to Bhinai, Nos. 129 and 128, called respectively the Bara Talab and Chota Talab. These tanks were formerly separated, but now form one tank and irrigate some 400 bighas. The weir is broken and requires to be re-built; new sluices are required, and the embankment requires to be repaired, and a portion of the dam for a distance of some 500 feet between a sluice and the weir should be re-built with a core or face-wall down to rock, as there is leakage under the bund at this point. A survey and estimate will be prepared for this.

DRAINAGE AREA No. 9.

1. On the north of this drainage area are tanks Nos. 130, 132, 131, 133, called respectively, Athuna, Bankra, Dodha, and Naya Talab, belonging to Bhinai. Of these Nos. 130 and 131 are small tanks and require no improvements. Tank No. 132, the Talab Bankra, irrigates some 900 bighas with three waterings. Its bund is badly in need of repairs, and it requires sluices and a new weir of sufficient length. A survey and estimate will be prepared for this. Tank No. 133, the Naya Talab, also requires improvements in the shape of a new weir and sluices, and the bund requires to be strengthened. A survey and estimate will be prepared for this.

2. South of these tanks, near Bilia, is tank No. 134, the Bara Talab, also belonging to Bhinai. Part of the overflow flows over a weir of insufficient length towards Kanai Kalan, and part is taken over a small weir by a feeder to tank No. 132 at Sarkhund. This small weir requires repairs as does the feeder, the main weir requires to be lengthened, and the bund requires strengthening. A survey and estimate will be prepared for this.

3. At Kanai Kalan is tank No. 135, the Shyam Sagar, belonging to the Thakur of Kanai Kalan. This tank breaches owing to its weak section and to having too small a weir. The Thakur Sahib desires an estimate to be prepared for strengthening the bund and providing a weir.

4. At Khera are tanks Nos. 137 and 136, the Khera Talab and Naya Talab, belonging to the same Thakur, the overflow from 137 passing into 136. These tanks require strengthening and improving, and a weir should be provided in tank No. 136. A survey and estimate will be prepared.

5. At Nimera are tanks Nos. 139, 138 and 140, called respectively the Talab below village, Bhera Talab, and Naya Talab, belonging to the Kherot Estate, at present under the management of the Court of Wards. Of these, tank No. 139 has breached at the site of its weir. It requires stengthening, and a new weir of sufficient length is also required. A survey and estimate will be prepared for this. Tank No. 138 also requires strengthening, a new weir and sluices. An estimate will be prepared for this. Tank No. 140 is a small tank and does not breach, and beyond petty repairs requires no improvements.

6. At Kanai Choti are three tanks, Nos. 143 (Pangata Talab), 142 (Naya Talab), and 141 (Nadi Gujar), owned by the Thakur of Kanai. Of these tanks Nos. 142 and 141 are weak in section, but do not breach, and the Thakur does not require anything to be done. The Thakur Sahib had a scheme for enlarging tank No. 143 and feeding it from the nullah. There are the remains of an old weir which the nullah has evaded, near where the road crosses the nullah. There is a good site at site A, just behind the old weir, and where there is rock foundation. The weir need not be a long one, and if levels will permit, a feeder may be taken from this to Tank No. 143, which can be enlarged, as there is a lot of land fit for cultivation below this tank. A survey will be made for this purpose, and if satisfactory an estimate will be prepared. There is no possibility of making a tank across this nullah, as the land on the north side is too low-lying.

DRAINAGE AREA No. 10.

1. North of this drainage area at Parlia are Tanks Nos. 146, 145, 144, called respectively, Chota Talab, Bara Talab and Jhila, belonging to the Thakur of Parlia. These tanks are all in good condition and require no improvements.

2. South of these tanks are two tanks belonging to the same Thakur, Nos. 151 and 150, the Chaunud Sagar and Mal-ki-Talab. These tanks require to be strengthened, and the Thakur Sahib is going to do this.

3. Near Nandsi are tanks Nos. 147, 149 and 148, called respectively the Deo Sagar, the Man Sagar and the Ranjit Sagar, belonging to the Thakur of Nandsi. All these tanks require improving and repairing, but the Thakur Sahib does not require any help from Government, and does not desire surveys to be made, so nothing will be done.

4. North-east of the last-mentioned tanks is a tank belonging to Bhinai, No. 152, Talab Khajarwala. This tank has breached in several places, and it requires to be repaired. The bund should also be built up to proper section with a weir of sufficient length and sluices. A survey and estimate will be prepared for this.

5. At Kacharia is Tank No. 153, the Porana Talab, also belonging to Bhinai. This tank breaches, and the water passes over the top of the bund. A survey and estimate will be prepared for extending the bund and repairing it up to proper section, and providing it with a weir and sluices.

6. At Jaitpura are Tanks No. 154 (Bishan Sagar), No. 155 (Devi Sagar), No. 156 (Ratan Sagar), No. 157 (Bala Sagar), No. 158 (Man Sagar), and No. 159 (Deo Talab), belonging to the Thakur of Jaitpura. Of these tanks, No. 154 is in good condition, and its overflow feeds the Debi Sagar, No. 155. It irrigates some 600 bighas. No. 155 is breached in several places and requires repairing, the bund requires to be strengthened and heightened, a weir and sluices are necessary, and the breaches require to be carefully repaired. The dam might also be extended with advantage on the east side. The Thakur Sahib is anxious for a survey and estimate for this to be prepared, and this will be done. Tank No. 158, the Man Sagar, is fed by a feeder as shown on the map. It fills in average years and irrigates some 200 bighas, but is in bad condition. A survey and estimate will be prepared for repairing the bund and providing a weir and sluices. A similar survey and estimate will be prepared for Tank No. 157, the Bala Sagar. Tank 159 is a small tank, and petty repairs may be carried out by the Thakur himself as necessary. Tank No. 156, the Ratan Sagar, is the remains of a tank not now used, and from what I can gather a masonry dam was originally built some 30 years ago across the nullah, as shown on the plan, and a tank made, but the dam breached the first year it was completed. About 16 years ago the former Thakur constructed a fresh embankment above the old alignment, but before he had completed the tank by bunding the nullah he died, consequently the tank was not completed and the nullah remained open. The management of the estate then passed into the hands of the Court of Wards, and nothing more was done to complete the tank. The present Thakur now wishes to construct a fresh masonry dam and rebuild the tank, but this can hardly be done now, as the nullah feeds tanks belonging to Khairot, Nos. 160 and 161,

and these tanks, as will be seen from the map, would be seriouly affected if a weir across the nullah in Tank No. 156 was rebuilt.

7. At Khairot the two tanks fed by this nullah, as just mentioned, are Nos. 160 and 161, the Talab Khemcha and Moti Sagar, the overflow from the first-mentioned tank filling No. 161. Khairot is at present under the management of the Court of Wards. An estimate will be prepared for strengthening the bund of Tank No. 160 as necessary, and providing it with sluices and a weir of proper length. Tank No. 161 is at present breached at the weir and at the sluices. A new weir and sluices are required, and the dam should be strengthened where necessary. A survey and estimate will be prepared for this.

8. There are three other tanks belonging to Khairot, No. 162 (the Naya Talab), No. 164 (the Sham Sagar) and No. 163 (the Talab on Dhanop Road). Of these tanks No. 162 requires a weir and sluices. A survey and estimate will be prepared for this together with such repairs as may be necessary for the bund and also for the bund of Tank No. 164, the overflow of which runs into No. 162. Tank No. 163 is a small tank, and is not worth spending money on.

9. At Kurthal are tanks Nos. 167, 166, and 165, called respectively the Bara Talab, Kalayan Sagar and Naya Talab, owned by the Thakur of Kurthal. These tanks are all in fair condition, and the Thakur Sahib does not require anything to be done to them.

DRAINAGE AREA No. 11.

1. North of this drainage area, near Champaneri, are Tanks Nos. 180, 179, 178, called respectively Dand, Bara Talab and Sheo Sagar, belonging to Bhinai. Tanks Nos. 180 and 179 have breached. A survey and estimate will be prepared for mending the breaches, strengthening the bund, and building a weir and sluices. Tank No. 178, the weir requires to be extended and the bund requires raising, and two pucca sluices are required. A survey and estimate will be prepared for this.

2. Near Kera is Tank No. 177, the Dand Talab, also belonging to Bhinai. Three villages use the water from this tank, and at present the tank is in a bad state of repairs. A survey and estimate will be prepared for repairing the bund to proper section, and constructing a weir and sluices.

3. South of this are two more tanks belonging to Bhinai, Nos. 176 and 175, called respectively the Ragunath Sagar and Gopal Sagar. The former, No. 176, has lately been constructed and has breached at one end. It has a good face-wall, but the earth embankment is very weak; the length of weir is also far too short, and sluices are required. Tank No. 175 is a large tank that fills in indifferent years, the water passing over the top of the bund in good years. There is also a feeder to the tank catching surface water; this is out of repair, but as the tank fills without this additional water, the feeder has not been mended. Some 400 bighas are irrigated, and there are a lot of wells in the bed of the tank, and there is more available land for cultivation. A survey and estimate will be prepared for raising the tank and strengthening it, and providing a weir of suitable length and sluices. The waste water at present runs into the Khari river.

4. South of Campaneri is Tank No. 172, the Naya Talab, which belongs to the village of Gudha Chota, owned by the Thakur of Nandsi. The tank does not breach, but might be improved, but as before mentioned the Thakur of Nandsi does not require any help from Government in improving his tanks.

5. Near Gudha Chota is Gudha Bara. The Thakur of Gudha Bara also states that he does not require any help from Government in improving his tanks. He has two tanks near the village, Nos. 168 and 169, called respectively the Talab below village and the Naya Talab. Both tanks are in very fair order and do not require improving. At Pandolai he owns two tanks, Nos. 171 and 170, called respectively Pandolai and Chappria Talab, and both of these tanks might be improved. I found a possible site on the nullah, site A, for a new tank, but the land owned by the Thakur on the east bank is unsuitable for cultivation, and the land on the west bank is already irrigated by his existing tanks, so no use can be made of this nullah.

6. To the west of these tanks is the main nullah of the drainage area. Starting at the source of the nullah a little way down is a bund at site B, orginally constructed by the Thakur of Deolia for the purpose of filling his Tank No. 181, the Akhi Sagar. As half this nullah at this point belongs to Bhinai and half to the Thakur of Deolia, the bund was only made to half the width of the nullah with a feeder to the tank, and was of course useless, as all the water passed the Bhinai side of the nullah. Since then a weir has been constructed at site C, the nullah at this point being entirely in

Deolia territory. This weir has breached, and even if repaired it would not be satisfactory for the following reasons:—

(1) The ground on the east side, *i.e.*, the Bhinai side of the nullah, is very low, and there is a possibility of the water when headed up by the weir forcing its way round the low ground and so forming a fresh channel in Bhinai territory.

(2) The levels of the weir at this point in the nullah are too low. Water passes through the feeder to the tank to a certain height below weir level, and then, if more water enters the tank from its own catchment area, the water starts passing back again through the feeder into the nullah. Of course this could be avoided by having a shutter built in the bund where the feeder enters the bund, which could be closed as soon as the water began to pass back towards the nullah. I propose that a weir be constructed at site E or at such a point where the weir level across the nullah will be higher than the weir level of the tank. This will necessitate the building of a portion of the weir in Bhinai territory, but as this nullah cannot be utilized by Bhinai there should be no objection to this being done. The tank itself requires to be strengthened and improved at the same time, but before a survey and plans are prepared it should be settled whether the nullah water may be utilized or not, as suggested above.

7. Lower down the nullah at Bagrai a weir has been constructed across the nullah, site D. The masonry was not taken far enough into the banks and the level of the weir was made too high, consequently the water made a breach at the junction of the masonry with the earthen embankment and cut out a fresh channel for itself. This breach was again repaired by a length of masonry weir, and the bund has again breached and the nullah cut out a fresh channel for itself, consequently the ground is very broken up and repairs will be expensive. A survey will be made to see how best the repairs can be made, and if the cost is not prohibitive the repairs might be carried out. The object of the weir at this point is for existing wells, and fresh wells can be made at small cost. Also the bed of the nullah and low land on the up stream side of the weir can be irrigated. The Thakur of Deolia is anxious for the repairs to be carried out if possible.

8. Lower down at site K there is another weir belonging to the same Thakur, which has breached, and the case here is exactly similar to that of the weir mentioned in the last paragraph. Only here there is a good site just below the existing weir, site H, where a fresh weir could be constructed to high rocky ground on each side, and it would be far cheaper to do this than attempt to repair the existing weir. A survey and estimate for this will be prepared.

9. To the west of this site are two tanks belonging to the same Thakur, Nos. 173 and 174, called respectively Chipolai and Sadul Sagar. Tank No. 173 irrigates about 200 bighas, is of weak section and requires a weir and sluices. A survey and estimate will be prepared for this. Tank No. 174 is mainly used for bed irrigation and does not require anything beyond petty repairs.'

DRAINAGE AREA No. 12

1. Starting at the south-west of this drainage area, near the village of Barli, are two tanks, Nos. 194 and 193, called respectively Asholai and Bhuntala. The Thakur of Barli has desired for some time to construct a weir across the nullah, point A, near Nagar, and take a feeder from it to fill the above-mentioned tanks. The Thakur of Nagar objected to this, as the only land belonging to him which can be irrigated is on the south side of this nullah, and this land would become submerged in the event of a weir being constructed, as it is very low ground at this point. The question as to whether this weir should be built arose some years ago, and it has never yet been definitely settled. If this weir was built there is no doubt that the irrigated land belonging to the Thakur of Nagar would be submerged, and he would suffer in consequence. I will have levels taken, as it is just possible that the Bhuntala Tank (No. 193) might be fed by a cut taken direct from the nullah without the necessity of a weir. If this is the case the tank could easily be enlarged, and it would be a good project. I do not think levels will permit of the Asholai Tank being filled by the same cut.

2. Near Ganahera is tank No. 195, the Deo Sagar, belonging to the Thakur of Barli. It was proposed in the Khari River Project to raise this tank to hold 191·5 million cubic feet at a cost of 10,000 rupees. I have had two contours taken of the tank, and its present capacity may be put down at 150 million cubic feet; it fills in an average year and irrigates some 800 bighas below it for the Kharif and also its bed, which is a large one. There is no more available land for irrigation below this tank other than what is now irrigated by it, the irrigation reaching as far as the land near the Khari River already irrigated by wells, so that if it was enlarged, only the same land could be irrigated for Rabi crop, and in this case the bed could not be irrigated. So there would be little use in enlarging it. The tank has lately breached as has one of its feeders, and to put it in thorough repair, keeping the weir level as it is now, I should say it would cost some 8,000 rupees or more, and to further raise the tank it would be very costly and of doubtful advantage. I propose to make an estimate, after a survey has been made, to repair the tank up to its present weir level, and the Thakur Sahib is anxious for this to be done.

3. Three other tanks belonging to the same Thakur are Tanks Nos. 190, 192 and 191, called respectively Sheo Sagar, Bhuntala, and Naya Talab. These tanks require only petty repairs.

4. Near Deolia are Tanks Nos. 189 and 188. These are small tanks which require petty repairs only, named Mabat Sagar and Dainki Nadi.

5. Tanks Nos. 186 and 187, belonging to the Thakur of Deolia, called respectively Dand and Pach Pipla, require improvements. The bund of No. 186 breaches and requires to be rebuilt to proper section, and a weir of sufficient length should be provided. Tank No. 187 should be treated in the same way. A survey and estimate will be made for these tanks.

6. Tanks Nos. 185, 184, 183 and 182, named Nadi Guchchi, Nada Sankla, Bhagoti Talab and Himmat Sagar, are small tanks and require no improvements.

7. Near Nimera are Tanks Nos. 199 and 200, the Pangatia Talab and Bhandar Sagar, belonging to the Thakur of Barli. The former irrigates by lift from wells in the bed and requires no improvements, the latter is a small tank which should irrigate more land if the Thakur Sahib repaired a feeder to it, which is at present in desrepair.

8. Near Jaborkia there are three tanks belonging to the same Thakur, Nos. 196, 197 and 198, called Baretjewala, Barwala and Naya Talab. These are small tanks which the Thakur Sahib is having repaired.

9. Near Ekalsingha are three tanks belonging to Bhinai, Nos. 201, 202, and 203, called respectively Santolao, Naya Talab and Barranwala. Nos. 201 and 202 are combined. No. 201 consists of an earthen bund with masonry face-wall, and it breaches, as the earthen dam is of very weak section, and the face-wall is also in bad condition. An estimate will be made for repairs to this tank and for the provision of a weir and sluices, the weir to be of sufficient length to serve both tanks. Tank No. 202 will be estimated for in the same way. No. 203 is a small tank belonging to the villagers of Ekalsingha and requires no improvements.

DRAINAGE AREA No. 13.

1. Starting at the north-west of this drainage area, near the village of Ambaji-ka-Khera, there is a site (A) on the Nullah, suitable for a weir. A project has already been prepared by the late Superintending Engineer for constructing this weir and taking a feeder from it to Tank No. 4, the Dhonia Talab, and also a feeder on the other side of the nullah to Tank No. 3, the Jajola Talab. The overflow from Tank No. 4 would then go into Tank No. 5, the Bakht Sagar, the bund of which is to be extended to that of Tank No. 4. All these tanks belong to the Thakur of Junia. The rates in the estimate seem low, and there are no plans of the country to be irrigated below the tanks. It might therefore be advisable to revise the plans and estimate.

2. Tank No. 1, the Lon Sagar, belonging to the same Thakur, has breached, but this is a small tank and might be repaired by the Thakur himself.

3. On the east of Junia is tank No. 3, the Balaota Talab, belonging to the same Thakur. The bund is in good condition but the tank leaks badly through its bed, and no improvement seems possible.

4. South of this on the Dain River are two sites where there are rocky crossings, sites B and C, the former at Dewalia and the latter at Chapria. These sites would be suitable for the construction of weirs, which would benefit the wells up stream on both banks. Both these sites are in Junia territory.

5. South of site B is Tank No. 6, the Kalian Sagar, also belonging to the same Thakur. A project has already been prepared by the late Superintending Engineer for constructing a weir at site D, across the nullah, and taking a feeder from it to this tank. However, the nullah is in Kishangarh territory, but as the construction of a weir at this point would not necessitate any embankment being made in Kishangarh territory, and the water of this nullah passes to waste into the Dain River, and the Kishangarh State cannot make any use of this water, their permission for the construction of the weir should be possible to be obtained. The rates in the estimate for this project seem low, and there are no plans of the land under command. So it is a question of leaving the project as it stands or revising it, and making fresh surveys of the land under command. In any case the permission of the Kishangarh State should be obtained to allow of the construction of the weir.

6. South of this tank there are two tanks at Naiki, Nos. 8 and 9, called Bara Talab and Doralu respectively. These tanks also belong to the Thakur of Junia. A project has been prepared by the late Superintending Engineer for extending the dam of tank No. 9 across the nullah, as shown in red, and raising both tanks and providing a weir for Tank No. 9, the overflow from which would pass into Tank No. 8. As in the other projects, the land has not been surveyed below the tanks and the estimate rates seem low. So it is to be settled whether the project shall hold good as it now stands or be revised.

7. To the east of these tanks at Ekalsinga is tank No. 7, the Sheo Sagar, belonging to the Thakur of Para. The bund has breached at the east end; there is a lot of land under command, and the tank is said to easily fill in an average year of rainfall. A project might therefore be prepared for repairs to this tank. There are no possibilities on the nullah to the east of this tank.

8. South of this tank there are two tanks belonging to the Thakur of Junia, No. 11 (the Umed Sagar) and No. 10 (the Naya Talab). The former is in good condition, and the latter is a small tank which might be put into repair by the Thakur himself.

9. South of Meoda village is Tank No. 12, the Khatolai Talab, belonging to the same Thakur. The tank is at present breached, but it is stated that there is a lot of water in an average year passing into the tank, and as there is good land for cultivation below, a project might be prepared for repairs to this tank.

10. Passing into the Baghera Parganah in the same drainage area at the south, near the village of Silari, is Tank No. 12, the Chajawala Talab, belonging to the Thakur of Silari. This is a small tank and requires no improvement.

11. North of Silari are Tanks Nos. 10 and 11, near the village of Khera, named respectively Mohala and Hansola. Both these tanks belong to the Thakur of Baghera and are in good condition.

12. On the Dain River the Thakur pointed out a site (Site No. E) for a weir to benefit the wells up stream. Though there is a rocky crossing here, the rock on the north side goes very deep below the surface, and hence a weir would be useless: further down stream I selected a site (Site No. F) where the nullah that joins the Dain River at this point has a natural rocky bed, and the Dain River has also a good rocky crossing at this site. The rock on the north bank then disappears to a depth of about 12 feet and crops up again on the surface at a short distance away from the nullah. I would propose that a weir be built across the nullah and Dain River, and a wall 1½ feet thick be built from the end of the weir and taken down to rock to meet the rock where it again appears at the surface, as shown by the red line. The red dotted line then shows the line of rock probably at a very little distance below the ground surface. The south side of the river is all good sheet rock. As the nature of the rock throughout seems to be good sheet rock without fissures I think that a considerable amount of sub-soil water now passing to waste might possibly be stored up by constructing a weir as suggested. The site selelected is in Baghera territory.

13. Near Baghera is Tank No. 9, the Nauga Talab. This tank is in good condition.

14. North of Baghera at Deogaon are Tanks Nos. 4, 2, and 3, called respectively Nadi Gadheri, Deo Sagar and Nilwali, belonging to the Thakur of Baghera. These tanks are all in good condition.

15. Across the nullah, passing near Deogaon village, are two tanks, one at Dholai (No. 1), the Sheo Sagar and the other (No. 5), the Ganesh Sagar. Both of these tanks have breached and are in bad condition. The Thakur suggested repairing the Ganesh Sagar and taking a feeder from it south to Tank No. 9, and enlarging this tank, which has only a small catchment area of its own, but this does not seem to me to be advisable. I would suggest repairing and enlarging the tanks on the nullah, namely Nos. 1 and 5 as far as the levels

of the country will permit, and taking into consideration the available water supply from the nullah, and then if there is still further water available, the small tank below the Ganesh Sagar, not numbered, on the west side of Deogaon, at present used only for cattle, may be enlarged and fed from the Ganesh Sagar. These tanks could then irrigate the land south towards Bâghera, which is all good land.

16. At Karonch there are three tanks, Nos. 6, 7, and 8, called respectively Man Sagar, Bhopat Sagar and Kalian Sagar. These tanks belong to the Thakur of Karonch, they are in bad condition, but are small tanks with small catchment areas, and should be repaired by the Thakur himself.

17. There seem to be no possibilities in this drainage area other than those mentioned.

DRAINAGE AREA No. 14.

1. To the north-east of this drainage area, near the village of Tiswaria, are Tanks Nos. 13 and 14, called respectively the Naya Talab and Talab Hadia. These are both small tanks that could be put into repair by the Thakur of Tiswaria himself.

2. West of these tanks at Mandha is tank No. 15, the Talab Pipliwala. This tank belongs to the Thakur of Mandha. An extension to the bund was made during the last famine, but has breached, and the tank requires repairing and a weir. Surveys might be made and plans and estimates prepared for this.

3. South of this, at Khera Nai, is Tank No. 16, the Khandolai Tank, and next to it is a small tank called the Dund Talab. The former belongs to the Thakur of Junia and the latter to Mandha. The former Superintending Engineer suggested that the tanks should be combined, and so store the water which now passes to waste down the nullah between the tanks, but the two estates would not consent to this; and I think the best course to pursue, as a lot of water passes over the bund of tank No. 16, and also round the north end into the nullah, would be as follows:—That the tank be raised to hold the calculated maximum amount of water that would flow into it in a year of average rainfall (there is sufficient land below to make use of this), and that a weir be constructed at the north end. The nullah, which is very small, could be blocked up, and any water passing over the weir of Tank No. 16 could be taken into the Dund Talab. Neither estate-holder could have any objection to this, as at present the Dund Talab practically gets no water, and the estate-holder would be glad of what he could get; and if Tank 16 was raised so as to store the full amount of run-off in an average year, the owner of this tank should not object to the overflow from his weir passing into the Dund in a year of rainfall exceeding the average. Surveys might be made for this and plans and estimate prepared. No further use can be made of this nullah.

4. Near Molkia are two tanks (Nos. 17 and 18) called respectively, Naya Talab and Molkia Talab, belonging to the Thakur of Para. Both these tanks are small and require only petty repairs.

5. South of this at Kalera is Tank No. 19, the Dhotal Sagar, belonging to the Thakur of Kalera. This tank only requires petty repairs.

6. To the west of Kekri, at the village of Sirsiri, is Tank No. 21, the Chawandi Talab. This tank belongs to the Thakur of Koas, and is in good condition.

7. To the west of this again is tank No. 22, the Sheo Sagar at Meoda, belonging to the Thakur of Meoda. This tank is also in good condition.

8. To the east of Khera, at the start of the nullah flowing past Para, is Tank No. 23, the Talab on Pranhera Road, belonging to the Thakur of Para. This tank is fed from a weir across the nullah and requires no improvement.

9. Following down this nullah a project has just been completed by me in the Para estate for constructing a weir across this nullah at Site E, and taking a feeder to Tank No. 33, the Kali Talab, combined with the Sagram Sagar, and enlarging both of these tanks.

10. North of this site, on the branch of the same nullah at Koda, a project has been prepared and sanctioned for constructing a weir at site F and taking a feeder from it to Tank No. 20, the Naya Talab, belonging to the Thakur of Koda. The rates in this estimate seem low, and no survey has been made of the land under command, so it is a question of leaving the project as it is or having it revised.

11. Down stream along the nullah there is a good site at D where a tank might be constructed. Near Dhundri a portion of the bund would be in Mehron territory and one end of the bund would be in Bogla territory. The project would hardly be worth carrying out, as the land under command is only about 500 bighas, and the nullah to be dealt with is a big one, and a large tank should be constructed if anything is done at all.

12. On the branch of the nullah flowing from Pranhera, Site C, is a possible site for a tank, but on levels being taken it was found that if a tank was constructed at this point, the well cultivation of another estate-holder, the Thakur of Gulgaon, would be submerged, so the proposal is useless.

13. Higher up this nullah there is a Site B, where a weir can be constructed and a feeder taken from it to Tank No. 32, the Naya Talab, belonging to the Thakur of Gulgaon; but here again the site proposed for the weir is in the Sankria estate, so the proposal cannot be carried out.

14. Higher up this nullah, north of Koas, a proposal was made by the former Superintending Engineer to construct a weir at Site A and take a feeder from it to the Koas Tanks Nos. 43 and 44, called respectively Chhajalia and Man Sagar; but the Thakur did not approve of this scheme, as his tanks are already capable of irrigating all the land below them and are otherwise in fair condition.

15. Higher up the nullah, at Pranhera, a tank has been constructed across the nullah called the Ranjit Sagar, No. 36, by the Thakur of Pranhera, at a cost of Rs. 10,000. The bund of this tank has breached in several places and is mostly made of usar soil. An estimate was prepared some time ago amounting to some Rs. 63,000 to repair and enlarge the tank and construct a weir. This was considered too expensive, and a fresh estimate was prepared for more or less petty repairs amounting to about Rs. 5,000. The Kishangarh estate have plans prepared for constructing tanks on the same nullah higher up, so the enlarging of this tank seems out of the question, and personally I do not consider it would be of any use to try and repair the present tank, as the existing work is of such a bad quality it would most probably breach again and more money would be wasted. It seems only possible to entirely reconstruct the tank or abandon it. If the tank is to be reconstructed entirely it would be expensive, as the site chosen is not good, and there is no better site above or below the present site (the land is also now very much cut up, owing to nullahs having formed through the different breaches), and it is doubtful if it would be sufficiently remunerative to be worth doing.

16. Near this tank is Tank No. 37, called the Naya Talab, belonging to the same Thakur. This tank is in good condition.

17. At Bhimras there are two tanks (Nos. 38 and 39), called respectively Devi Sagar and Shahmor Talab, belonging to the Thakur of Mehron. These only require petty repairs, which can be carried out by the Thakur himself.

18. At Kachria there are two tanks (Nos. 40 and 41), belonging to the same Thakur, called respectively Talab Morra and Talab Morri. These only require petty repairs.

19. East of Kucharia is Tank No. 42, called the Sesh Sagar, belonging to the Thakur of Koas. This is a small tank, and should be repaired up by the Thakur.

20. South of Koas there are two small tanks (45 and 46), called respectively Kishen Sagar and Sagat Sagar. These require petty repairs only.

21. East of Koas at Sankria is Tank No. 47, the Sitolas Talab combined with the Naya Talab, No. 48. The latter has breached, and the present bund has been badly constructed and is very weak in section. A survey and estimate should be prepared for repairing these tanks and providing a weir of suitable length. These tanks belong to the Thakur of Sankria.

22. North of this at Pharkia are two Tanks (Nos. 35 and 34), called the Kalyan Sagar and Dund respectively. These tanks belong to the Thakur of Junia, and only require petty repairs.

23. North of this at Nimodha is Tank No. 24, the Talab Khund, belonging to the Thakur of Nimodha. This tank is in good order.

24. South-east of this tank, near Para, are Tanks Nos. 25, 26, 27, 28, 29, 31, and 30, called respectively Dand, Dedo, Naya Talab, Chhapria, Bhandolai, Bhajawala and Sheosagar. These tanks only require petty repairs, which the Thakur is about to carry out.

25. North-east of Para, at Kalera, is Tank No. 19, the Dowlat Sagar, belonging to the Thakur of Kalera. Only petty repairs are necessary.

DRAINAGE AREA No. 15.

1. Starting at the south-east of this Drainage area, at the village of Deoli, is Tank No. 1, the Sheo Sagar. This tank requires petty repairs only.

2. On the north of the village is Tank No. 2, the Dhaulai Talab. Water at present flows over the bund, and the tank might be repaired, and strengthened; but the Thakur does not require any surveys to be made.

3. To the west of Deoli at Site A, on the nullah flowing into the Banas River at Bora, there is a good site for a weir to benefit the wells up stream towards Deoli.

4. On the north side of the Banas River, at Kalara, are Tanks Nos. 3 and 4, called respectively Bara Talab and Kulina. A project has been prepared for constructing a weir across the nullah at Site B, and enlarging and feeding Tank No. 6, the Khera Talab, and Tank No. 5, the Jalki Nadi, from the weir, and also enlarging and feeding Tanks 3 and 4. The estimate for this project seems low.

It would also be difficult to enlarge Tank 6, as the present bund is covered with good trees, which would have to be cut down and a fresh bund constructed. The bund of Tank 5 is a long one in very bad condition, and to enlarge and repair this would also be expensive. It is questionable whether it would not be more advisable to pursue the following course: to construct a tank with a core or face-wall for its entire length at the site selected for the weir. This site is a good one for a tank. The total length of the bund would only be about one-third of a mile; a weir could be constructed at the south end of the bund and the overflow would pass down the nullah into Tanks 4 and 3. The Tanks 6 and 5 would then be left as they are and used for bed cultivation, and the proposed tank could irrigate the land below it. Tanks 4 and 3 would be fed from the unintercepted portion of the nullah and also from the overflow of the proposed tank. As the catchment area of the proposed tank is a rocky one, from observation, it could then easily be found out how much spare water in an average year flowed over the weir (provided that there was an overflow in an average year), and the Tanks 3 and 4 could then be enlarged and repaired accordingly, so as to store the full amount of water from the unintercepted catchment of the nullah, in addition to the overflow from the proposed tank. In addition, the bed of the proposed tank might be cultivated.

5. North of Kalara, at Bajlo, is a small Tank No. 7, called the Dhaulai Talab. This tank requires petty repairs only.

6. South-west of this tank there are the remains of a tank with a masonry face-wall across the nullah, Tank No, 9, the Ganesh Sagar. The tank has breached and is founded on bad foundations; a project has been prepared for providing a weir, and underpinning the existing wall with masonry blocks and providing an earthen embankment on the rear side of the wall. There are no plans of the land under command, and the estimate seems low. The Thakur is not anxious for this work to be caried out.

7. On the other branch of the nullah, near the village of Mori, is Tank No. 10, the Gaontila. This tank is in good condition, and nothing further is possible in this nullah.

8. To the east, near the village of Ratio, is Tank No. 8, called the Ratio Talab, and south of this on the same nullah is Tank No. 11, the Kankria Talab. At present the overflow of the Kankria Tank passes over the country to the south of the dam and runs to waste. I propose, therefore, that this tank be repaired, and the bund at the south be taken up to high ground, and a weir be constructed across the nullah. The overflow would then pass into Tank 8, and this tank might then be enlarged and repaired so as to hold this water, together with the flow from its own unintercepted catchment area.

9. Near Jaswantpura is Tank No. 12, the Dund Talab. This tank leaks through its bed, and this cannot be remedied. There is nothing further possible on the nullah that passes through this tank.

10. Near Sarwar are Tanks 14 and 13, called respectively the Kharda and Madho Sagar. These tanks only require petty repairs.

11. East of Sarwar there is a site across the two nullahs, which flow into the Khari River (Site C), where a large tank might be constructed. The nullahs at the points where the dam would cross them have rocky beds, and there is a good site for a weir at the north end, the overflow from which would pass into a small nullah, and thence into the northern main nullah. The land could be irrigated between the two nullahs, and from the village of Gordan right away towards the Banas River. The land submerged in the beds is mostly uncultivated land, and the soil is good for bund construction. As the catchment areas of the two nullahs are very large, the weir would be of considerable length; but as the crossing in each nullah is a rocky one, low-level shutter sluices could be constructed on each nullah to help to carry off the surplus flood discharge. There is a large tank, the Bhimpura Talab, constructed by the Shapura estate, some miles above the selected site on the northern branch of the nullah. A proposal was suggested by the former Superintending Engineer to construct a tank across the southern nullah at Site D; but this was rejected, as it was thought that several estates would be involved in the project, and in any case the village of Gordan and Chiklia would have been submerged if the project was carried out. In the proposal at Site C the land between the two nullahs belongs to the Thakur of Sarwar, and all the land to be irrigated south-east of the nullahs is in his territory, with the exception of the land belonging to Bisundni, who is subordinate to Sarwar; and as he could irrigate what little land he has from the same tank, there should be no objection to a water-course being taken through his land. The site of the dam would be partly in Sarwar and partly in Piplaj territory, and part of the land submerged in the bed would be in Piplaj territory; but as the Thakur of Piplaj would be able to cultivate whatever land became submerged in his territory the construction of the tank would be to his advantage.

12. If the above-mentioned proposal is rejected there is a Site E near Gordan where a weir could be constructed for benefiting the few wells there are up stream, and a similar weir could be constructed at Site F. It is also possible that a cut might be taken from this into the nullah flowing south of Sarwar, as shown by a red dotted line on the map. There are two sites on this nullah where tanks might be constructed:—

(*a*) Site G, where the Udai Sagar Tank (No. 18) might be enlarged and carried across the nullah.

(*b*) Site H.

In any case one of these tanks might be constructed to store the water that at present flows down the nullah, even if it is found impossible to take a feeder to the nullah from Site F.

13. North of this nullah there are three tanks Nos. 17, 15 and 19, called respectively Charnwala, Debi Sagar and Bohra Sagar. These tanks require petty repairs only.

14. South of this nullah is tank No. 22, called the Motolao Talab. This tank requires petty repairs only.

15. On the nullah running through Piplaj a tank might be constructed by extending the Nol Sagar, an existing small tank across the nullah, Site J.

16. South of Chitiwas there are two tanks, Nos. 20 and 21, called respectively Chotka and Bara Talab. These tanks only require petty repairs.

17. To the west of these tanks there is the Molka Talab, a small tank which might be extended, repaired, and enlarged to irrigate all the land under it, as it receives a good water supply from the nullah entering it. All the above-mentioned tanks and proposals are in Sarwar territory.

18. To the west of the last-mentioned tank is Tank No. 23, the Naya Talab. This tank needs only petty repairs. It belongs to the Thakur of Bisundni, subordinate to Sarwar.

19. Near Gordan are Tanks 25 and 24, called respectively the Chotka Talab and Bara Talab, belonging to the Thakur of Sarwar. These tanks only require petty repairs.

20. South of Piplaj is Tank No. 26, the Dund Talab, belonging to the Thakur of Piplaj. This tank is in good condition.

21. North-west of this drainage area, near Kadera, are Tanks Nos. 49 and 50, called respectively Dojola and Naya Talab, owned by the Thakur of Kadera. These tanks require petty repairs only.

22. On the nullah south of the village of Kadera, at Site K, a weir has been constructed for the purpose of benefiting the wells up stream; but it has breached, and is not worth repairing, as the foundations are on very porous kunkar, no rock being obtainable here. The site is also good for constructing a tank here; but by doing so the village and well cultivation would become submerged. Higher up stream above the village there is good well-cultivation, so it is not possible to make use of this nullah.

23. To the east of Kadera, near Aloli, are Tanks 52 and 51, called respectively Talab at Rampura and Bara Talab. Both tanks belong to the Thakur of Merion, and are in good order.

24. East of these Tanks is Tank No. 53, the Abhe Sagar, belonging to the same Thakur. This tank has breached and an estimate might be prepared for enlarging and repairing it.

25. At Sidhara is Tank No. 54, the Dip Sagar, belonging to the Thakur of Sidhara. This tank is in good condition.

26. It does not seem possible to make any use of the Khari River, in the way of taking feeders to tanks, as the land on both banks is high, and the bed of the river is low in this part.

27. South of the Khari River, and north of Sawar there is a tank at Rajpura, No. 16, the Gaontela. This tank requires petty repairs only. It does not seem possible to make any use of the nullah flowing south of this tank.

DRAINAGE AREA No. 16.

To the north of this drainage area, is Tank No. 1, the Hira Sagar. At present this tank is in fair condition; but there is no weir, the waste water passing over flat ground to the south end of the bund. As the tank easily fills in a good year, and there is good land available for irrigation below it, the bund might be heightened and extended across this low-lying ground, and a pucca weir built. Surveys might be prepared for this.

2. South-west of this tank, at Monia, is Tank No. 6, the Uparia Talab. This tank is in good condition.

3. To the west of this tank at Rajpura is Tank No. 7, the Harrajpura Talab. This tank is also in good condition.

4. Southwards, on the same nullah, is Tank No. 10, the Ratan Sagar. This tank fully utilises the water flowing down this nullah in an average year, and requires no improvements.

5. To the north, near Sabalpara, is Tank No. 3, the Sabalpara Talab. This tank requires no improvement.

6. On the western branch of the nullah, just north of Masuda, there are two weirs (sites B, C), for stopping subsoil water, as shown on the plan, and there is good well-irrigation along the bank of the nullah.

7. Up stream along this nullah, west of Masuda, near the village of Chaodisia, there are two tanks, No. 11 (the Debi Sagar), and No. 12 (the Chhanet Sagar). Both these tanks are in good condition and require no improvement. Just below Tank No. 11 there is a weir for benefiting wells at Site A.

8. Adjoining the village of Masuda is Tank No. 13, the Gopal Sagar. The bund of this tank is in weak condition and should be strengthened.

9. South of this tank is Tank No. 21, the Paranah Talab, near the village of Deomali. This tank is in good condition.

10. North-east of Masuda, near Kusalpura, is Tank No. 16, the Kusalpura Talab. The overflow from this Tank passes into a small tank at Ratanpura, and thence into Tank No. 15. In an average year this latter tank does not fill, so that full use is made of the water; but Tank No. 16 might be repaired, as at present it breaches. The bund consists of a very inferior face-wall on bad foundations. The earthen backing should be sufficiently strengthened behind the face-wall, neglecting the utility of the face-wall altogether. Surveys might be made for this.

11. East of this Tank, at Kanpura, is Tank No. 17, the Bara Talab. This tank is in good condition.

12. South-west of this tank is Tank No. 15, the Talab Saran. This is a small tank, the bund of which is weak in section and requires repairs.

13. South of this tank is Tank No. 14, the Naya Talab, filled by a feeder from a weir across the nullah, as shown on the plan, Site K. It was proposed to heighten the weir and widen the channel, so as to enable the tank to be enlarged and filled in years of indifferent rainfall; but levels

do not permit of the weir being raised, as the well cultivation would be submerged. The present feeder fills the tank in an average year of rainfall in about 15 days. To widen this so as to fill the tank in less time would be expensive, as half the length of the feeder is in rock. The bund of the tank itself is a long one, and made entirely of usar, and the weir is of insufficient length. The tank also leaks in places under the bund, and is only capable of irrigating some 200 bighas. As the bund is made entirely of usar, if it is to be repaired successfully, there seems only one course open, namely, to construct a face-wall for the entire length of the bund. This would answer the double purpose of stopping leakage and prevent the tank from breaching; but I do not consider that it is altogether advisable to do this, as it would necessitate a large expenditure, with very little return on the outlay. The only other course open is to leave the tank as it is, and carry out petty repairs and trust to the tank not breaching.

14. To the east of this tank, near Fatehgarh, is Tank No. 18, the Bara Talab. This tank is in good condition. All the above-mentioned tanks are in Masuda estate.

15. South-west of this tank is Tank No. 20, the Kala Talab, in good condition and Tank No. 19, the Baktawar Sagar. This tank might be repaired and carried across the nullah flowing in the west of the tank, Site L. Surveys might be made for this. Both these tanks belong to the Thakur of Shergarh.

16. South-east of this tank is Tank No. 22, the Sheo Sagar at Lamba, belonging to the Thakur of Lamba. This tank consists of an earthen bund with a face-wall. The earthen dam is weak in section in parts, but the Thakur is repairing it.

17. South of Lamba, near Daulatpura, there are two tanks, No. 23 (the Daulatpura Tank) and No. 24 (the Bala Sagar). Both these tanks belong to the Thakur of Satana, and should be repaired by him.

18. East of Daulatpura there is Tank No. 25, the Lachmekhera Talab, belonging to the Thakur of Satana. This tank is in good condition.

19. Passing north into the Bhinai Parganah there are two tanks near Ratakot, No. 76 (the Padia Talab), and No. 77 (the Bhindolai Talab), both belonging to the Rao of Bandanwara. Both these tanks require repairing, and the Rao Sahib is about to do so.

20. East of these tanks is Tank No. 78, the Naya Talab, belonging to the Thakur of Tantuti. This tank is in good condition.

21. North of this tank, at Mathania, is Tank No. 79, the Talab, below village, also belonging to the Thakur of Tantuti. The Thakur is repairing this tank.

22. Eastwards, near Singawal, there are four small tanks, Nos. 80, 81, 82, and 85, called respectively the Talab on Mathania Road, the Village Tank, Naya Talab and Dhani Talab. All these tanks belong to the Bhinai estate and require petty repairs only.

23. South of these tanks, at Balkara, is Tank No. 83, called the Karam Sagar. This tank belongs to the Thakur of Barli, and is in good order, but leaks badly underneath the face-wall, and it would be difficult to stop the leakage without spending a prohibitive sum of money

24. East of this tank, at Bhanera, is Tank No. 84, the Banera Talab, also belonging to the Thakur of Barli. The bund requires to be strengthened, which should be done by the Thakur.

25. Passing southwards, into the Masuda Parganah, near Sukrani, there is Tank No. 26, the Nadi Savai Sagar, belonging to the Thakur of Sukrani. This tank is in good condition.

26. Near the village of Sukrani is Tank No. 27, the Raj Sagar. This tank has been breached for some years, and I have just completed a project for repairing and improving it. It belongs to the Thakur of Sukrani.

27. A project was formerly prepared for constructing a feeder channel with headworks at Garur, west of Jalia, as shown by a red line on the map. It was proposed to construct some new tanks and to repair and enlarge some existing tanks and supply them from this feeder channel. The project is now being modified and revised by me, and worked out in detail, and will consist of the following:—The construction of Headworks at Garur with a feeder channel which will supply—

1. A new tank, X.
2. Bari Nadi (which will be enlarged).
3. New tank at Khuntia, Y.
4. Tank No. 31.
5. Tank No. 30, at Lodhiana (which will be enlarged).
6. Tank No. 29, at Satana.
7. Tank No. 28, at Satana.
8. New tank Z, at Satana.

It was originally proposed to carry the feeder on to feed Tank No. 27 at Sukrani and Tank No. 195 at Barli; but a separate project has been prepared for enlarging the former of these tanks, which has a good catchment area of its own, which is sufficient to fill it in an average year of rainfall. The latter of these tanks also fills easily from its own catchment area and irrigates all the available land under its command, so the feeder will be stopped at Tank Z. The estate-holders involved in the project as it is now being prepared will be Masuda, Satana, and Kesarpura.

28. The portion of the main nullah of the drainage area passing through the area to be commanded by the Khari River project will not be made use of. There are already two weirs near the alignment of the cut from the Khari River at sites D and E, which benefit the wells above them.

29. Higher up the nullah there is a very good site, where a large tank might be constructed, Site H. The bund would start from the village of Lori, cross the main nullah to Pitiwas, from thence cross the second nullah, to the high ground, near Kailu. In both nullahs there is rock at the surface where the dam would cross them, and there is rock at the surface for practically the whole length of the bund. By constructing a face-wall for the whole length, a good bund would be made; and the cost would not be prohibitive, as no foundations would be required. A very good site is obtainable for the weir from the village of Pitiwas towards the southern nullah. The overflow would pass straight into this nullah. Another advantage of the site selected is, that the land that would be submerged in the bed of the tank is all waste land, and this would be brought under cultivation. Good land could be irrigated on both sides of the nullahs, and in between the nullahs down to the point where the cut from the Khari River is met with. There are two estates concerned in the project, Masuda and Shergarh. The bund at the northern end from Lori would be in Masuda territory, as far as the nullah, and the remainder would then be in Shergarh territory. The Masuda estate could irrigate on the north side of the nullah down to the Khari project

feeder, and the Shergarh estate could irrigate the land between the two nullahs and south of the southern nullah for a distance of about a mile. The Thakur of Shergarh is quite willing to combine with the Masuda estate in the matter. It is merely a question of settling how the cost of the project is to be apportioned between the two estates according to their respective financial portions and the benefit to be derived.

30. West of the above-mentioned site is Tank No. 39, the Naya Talab, belonging to the Thakur of Kailu. The Thakur is repairing this tank himself.

31. West of this tank is Tank No. 38, the Nim Sagar, belonging to Masuda. This tank is in good condition.

32. North of this tank is Tank No. 40, the Naya Talab, belonging to Shergarh estate. This tank was fed by a cut from the nullah north of it, as shown on the plan by a red line, but the feeder has since breached. A weir might be constructed a little lower down the nullah, Site G, in Shergarh territory, and the feeder taken from this to feed the tank. The project would be a useful one; but a little higher up the nullah a cut has been taken by the Masuda estate to feed the Shopura Tank, No. 41, and the Masuda estate propose extending the dam of this tank across the nullah as shown on the plan, Site F. The Thakur of Shergarh states that there is sufficient water for both these projects to be carried out, and I therefore propose that the following course should be adopted: That the Shopura tank may be extended across the nullah so as to store not more than half of the available water supply of the nullah in an average year of rainfall, and that a weir be constructed across the nullah to feed the Shergarh tank, the tank being enlarged to hold what is desired of the balance of the water. To determine the yield of the nullah in an average year the capacity of Tank No. 42 must first be measured, and the overflow from this tank in a year of average rainfall would be added to the calculated amount of water passing down the nullah from its catchment area, between Tank No. 42 and the site of the proposed weir for the Shergarh Tank. The total calculated yield would then be halved, and the two projects prepared, so that each would utilise one-half of the yield.

33. Tank No. 42, mentioned above, called the Nand Sagar, belongs to Masuda and is in good condition.

34. Higher up the nullah there is Tank No. 43, the Utni Talab. This tank is in good condition and fully utilises the water supply from its catchment area.

35. East of this tank there are two tanks belonging to Masuda, Nos. 44 and 45, called respectively the Gamwain Talab and Talab Bankra. Beyond requiring petty repairs these tanks are in good order.

36. East of these tanks there is Tank No. 46, the Sarupia Talab, belonging to the Shergarh estate. This tank is in good condition but does not now fill as the Masuda estate some six years ago extended the bund of their Chamchá Nadi across the nullah that feeds Tank. No. 46, and they now irrigate from this tank, which was formerly used only for bed cultivation. The Masuda estate should not be permitted to do this.

37. South of this tank is Tank No. 47, the Bahadur Sagar, belonging to the Masuda estate. The earthwork behind the face-wall in this tank requires to be strengthened.

38. West of this tank at Jewana there are two Tanks, Nos. 49 and 50, named respectively Naya Talab and Bara Talab, belonging to Masuda. Beyond requiring petty repairs, both are in good condition.

39. At Dewas there is a large tank (No. 48), called the Sameta Talab. The bund consists of a very strong face-wall with earthen backing. There are four sluices. The two high-level sluices are katcha, and two new pacca sluices should be constructed of the ordinary country type in their places, and two new pacca sluices with controllable shutters should be supplied in place of the existing low-level sluices of country type. It is difficult to regulate the water with the present sluices.

40. South of this tank is Tank No. 37, the Sheo Sagar of Masuda. This tank is in good condition.

41. To the east of this tank is Tank No. 36, the Debi Sagar, belonging to Masuda. This tank is in good condition; but the weir is of insufficient length, and should be lengthened, as otherwise the tank runs the risk of breaching.

42. Near Hanvantia there are three tanks (Nos. 34, 33, and 35), called respectively the Hanvantia Talab, the Bhairon Khera Tank and the Ganeshpura Tank. All these tanks belong to Masuda and are in good condition.

43. To the east of these tanks is Tank No. 32, the Naya Talab, belonging to Masuda. Most of the land under command will be eventually irrigated by the Khari River project; but a project might be prepared for repairing this tank to irrigate as much land as required of it, as it has also a fairly large bed area.

H. J. OLIPHANT,
Assistant Engineer.

List of proposed Projects in Drainage Areas Nos. 1 to 16.

Drainage Area No. 1.—

Para. 2 ...	(1) Site A, masonry weir	Richmalia Estate.
Para. 3 ...	(2) Site B, masonry weir	Do.
Para. 4 ...	(3) Tank No. 4, adding an earthen front slope, stone-pitched to the masonry face-wall.	Pisangan Estate.
Para. 5 ...	(4) Tank No. 6/Surveys for repairs to tank.	Mewaria Estates.
Para. 9 ...	(5) Site D, Improvements and repairs to Jhal Sagar.	Pisangan Estate.

Drainage Area No. 2, ... *Nil.*

Drainage Area No. 3.—

Para. 2 ...	(1) Improvements and repairs to Tank No. 6, also raising weir level if available water-supply permits.	Pisangan Estate.
Para. 3 ...	(2) Repairs to Tank No. 5 and improvements.	Do.
Para. 5 ...	(3) Site A, Repairs and improvements to the Hadolao Tank.	Do.
Para. 7 ...	(4) Site B, Improvements and repairs to Shankar Sagar.	Govindgarh Estate.
Para. 8 ...	(5) Site C, masonry weir	Do.
Para. 9 ...	(6) Site D, lengthening and repairing nadi of Lohars.	Do.
Para. 10 ...	(7) Site E, proposed new tank at Akhepura.	Do.
Para. 12 ...	(8) Proposed tank at Fatehpura already designed by Mr. Manners-Smith (in its present form the project is *not to be* carried out).	Pisangan Estate.

Drainage Area No. 4.—

Para. 1 ...	(1) Tank No. 10, improvements and repairs to this tank.	Pisangan Estate.
Para. 6 ...	(2) Site C, masonry weir	Kharwa Estate.

Drainage Area No. 4 A.—

Para. 2 ...	(1) Levels to be taken to see if it is possible to take water into village nadi by means of a duct.	Pisangan Estate.

Drainage Area No. 5.—

Para. 2 ...	(1) Repairs and improvements to Tanks Nos. 1 and 2.	Kharwa Estate.
Para. 3 ...	(2) Repairs and improvements to Tanks Nos. 4 and 5.	" "
Para. 5 ...	(3) Repairs to Tank No. 7	" "
Para. 6 ...	(4) Repairs and enlarging of Tank No. 9 ...	" "

Drainage Area No. 6.—

Para. 8 ...	(1) Repairs and improvements to Tank No. 2.	Jamola Estate.

Drainage Area No. 6 A.—

Para.	4 ...	(1) Repairs and improvements to Tank No. 5.	Bubania Estate.

Drainage Area No. 7.—

Para.	3 ...	(1) Surajpura Project	Bandanwara Estate.
„	5 ...	(2) Levels for alignment of water-course for Tank No. 17.	Bandanwara.
„	9 ...	(3) Repairs and Improvements to Tank Nos. 10 and 11.	Bhinai Estate under Court of Wards.
„	12 ...	(4) Repairs and Improvements to Tank No. 22.	Bhinai Estate.
„	13 ...	(5) Daulatpura Project for Tank No. 23 ...	Bhinai.
„	14 ...	(6) Sedria Project for Tank No. 24 ...	Bandanwara.
„	15 ...	(7) Repairs and Improvements to Tank No. 26.	Bhinai.
„	16 ...	(8) Repairs and Improvements to Tank No. 31.	Do.
„	18 ...	(9) Repairs and Improvements to Tank Nos. 33, 34 and 35.	Kabania.
„	20 ...	(10) New Weir across Dain River, Site H	Do.
21 „	~~22~~ ...	(11) Project for Improvements to Tanks Nos. 37 and 38.	Do.
22 „	~~23~~ ...	(12) New Weir across Dain River, Site E	Tantoti.
24 „	~~25~~	(13) Project for Tanks Nos. 40 and 41 ...	Do.
25 „	~~26~~ ...	(14) Improvements to Tank No. 42 ...	Do.
29 „	~~30~~ ...	(15) New Weirs at Sites F and G ...	Bandanwara.
30 „	~~31~~ ...	(16) Repairs and Improvements to Tank No. 47.	Do.
32 „	~~33~~ ...	(17) Repairs and Improvements to Tank No. 49.	Gocla ~~Gola~~, under Court of Wards.
34 „	~~35~~ ...	(18) Repairs to Tank No. 54	Sarana, under Court of Wards.

Drainage Area No. 7 A.—

Para.	4 ...	(1) Repairs to Tank No. 73	Tantoti.
„	4 ...	(2) „ „ „ No. 74	Do.
„	5 ...	(3) Levels for a cut to tank No. 65 ...	Arwar.
„	8 ...	(4) Repairs to tank No. 75	Kotri.

Drainage Area No. 8.

Para.	1 ...	(1) Repairs and improvements to Tank No. 86.	Bhinai, Court of Wards.
„	2 ...	(2) Repairs and enlarging of Tank No. 87	Do.
„	2 ...	(3) New weir at site C.	Do.
„	2 ...	(4) Headworks for Tank No. 103 and improvements and repairs to this Tank.	Do.
„	2 ...	(5) Improvements and repairs to Tanks Nos. 122 and 123 with feeder from Tank No. 103.	Do.
„	2 ...	(6) Enlarging Tank No. 112 and making headworks.	Jotayan Estate.
„	4 ...	(7) Enlarging and repairs to Tank No. 89.	Bhinai, Court of Wards.
„	5 ...	(8) Repairs and improvements to Tank No. 88.	Do.

Para.	7 ...	(9). Repairs and improvements to Tank No. 98.	Deolia.
„	8 ...	(10) Repairs and extending of Tank No. 102.	Bhinai, Court of Wards.
„	9 ...	(11) Repairs and improvements to Tanks Nos. 96 and 97.	Do.
„	10 ...	(12) Repairs and improvements to Tank No. 90.	Do.
„	11 ...	(13) Repairs and improvements to Tank No. 94.	Richmalia.
„	12 ...	(14) Repairs and improvements to Tank No. 93.	Do.
„	14 ...	(15) Repairs and improvements to Tank No. 104.	Do.
„	15 ...	(16) Repairs and improvements to Tank No. 106.	Rugnathgarh.
„	17 ...	(17) Repairs and improvements to Tanks Nos. 109 and 111.	Jotayan.
„	18 ...	(18) Enlarging Tank No. 113 and constructing weir across the Dain River with a feeder.	Goela.
„	19 ...	(19) Repairs and improvements to Tank No. 117.	Jaitpura.
,	20 ...	(20) Repairs and improvements to Tank No. 120.	Do.

Drainage Area No. 9.—

Para.	1 ...	(1)	Repairs and improvements to Tank No. 132.			Bhinai Estate, under Court of Wards.
„	1 ...	(2)	Do.	do.	No. 133.	Bhinai.
„	2 ...	(3)	Do.	do.	No. 134.	Do.
„	3 ...	(4)	Do.	do.	No. 135.	Kahai Kalan.
„	4 ...	(5)	Do.	do.	Nos. 136 & 137	Do.
„	5 ...	(6)	Do.	do.	No 138.	Khairot Estate, Court of Wards.
„	5 ...	(7)	Do.	do.	No. 139.	Do.
„	6 ...	(8)	Constructing weir and feeder, and improvements to Tank No. 143.			Kanai Choti.

Drainage Area No. 10.—

Para.	4 ...	(1)	Repairs and improvements to Tank No. 152.			Bhinai, under Court of Wards.
„	5 ...	(2)	„	„	No. 153.	Bhinai, under Court of Wards.
„	6 ...	(3)	„	„	No. 155.	Jaitpura.
„	6 ...	(4)	„	„	No. 158.	„
„	6 ...	(5)	„	„	No. 157.	„
„	7 ...	(6)	„	„	No. 160 & 161	Khairot, under Court of Wards.
„	8 ...	(7)	„	„	No. 162 & 164	Khairot, under Court of Wards.

Drainage Area No. 11.—

Para.	1 ...	(1)	Repairs and improvements to Tanks No. 180 and 179.			Bhinai Estate, Court of Wards.
Para.	1 ...	(2)	Repairs and Improvement to Tank No. 178.			Do.
„	2 ...	(3)	Do.	do.	No. 177.	Do.
„	3 ...	(4)	Do.	do.	No. 176.	Do.
„	3 ...	(5)	Raising Tank No. 175 and repairing and improving it.			Do.
„	6 ...	(6)	Constructing weir and feeder to Tank No. 181, and improving Tank.			Deolia.

Para.	7 ...	(7) Repairing new weir at Site D	Deoli.
„	8 ...	(8) Building new weir at Site H	Do.
„	9 ...	(9) Repairs and improvements to Tanks No. 173 ...	Do.

Drainage Area No. 12.—

Para.	1 ...	(1) Levels for taking feeder to Tanks Nos. 194 and 193.	Barli.
„	2 ...	(2) Repairs to Tank No. 195	Do.
„	5 ...	(3) Repairs and improvements to Tanks Nos. 186 and 187.	Deolia.
„	9 ...	(4) Repairs and improvements to Tank Nos. 201 and 202.	Bhinai.

Drainage Area No. 13.—

Para.	1 ...	(1) Junia Project, enlarging Tanks Nos. 4, 3 and 5 feeding from a weir across nullah.	Junia.
„	4 ...	(2) Weir across Dain river, Site B, near Dewalia ...	Do.
„	4 ...	(3) Weir across Dain river, Site C, near Chapria ...	Do.
„	5 ...	(4) Enlarging Tank No. 6 and feeding from weir across nullah.	Do.
„	6 ...	(5) Naiki project, enlarging Tanks Nos. 8 and 9 and extending No. 9 across the nullah.	Do.
„	7 ...	(6) Repairing Tank No. 7 at Ekalsinga	Para.
„	9 ...	(7) Repairing Tank No. 12 at Meoda	Junia.
„	12 ...	(8) Weir across Dain river, Site F, near Baghera ...	Baghera.
„	15 ...	(9) Repairing and enlarging Tanks Nos. 1 and 5 ...	Do.

Drainage Area No. 14.—

Para.	2 ...	(1) Repairs and improvements to Tank No. 15 ...	Mandha.
„	3 ...	(2) Repairs and improvements to Tank No. 16 ...	Junia.
„	10 ...	(3) Revising Koda project, Tank No. 20	Koda.
„	21 ...	(4) Repairing and improving Tanks Nos. 47 and 48 ...	Sankria.
„	9 ...	(5) Repairing and improving Tank No. 33 and constructing weir across nullah to feed the Tank. (Project completed and sanctioned).	Para.

Drainage Area No. 15.—

Para.	3 ...	(1) Weir to benefit wells. Site A...	Sarwar.
„	4 ...	(2) Proposed tank. Site B...	Do.
„	6 ...	(3) Repairs to Tank No. 9	Do.
„	8 ...	(4) Repairs and improvement to Tanks 11 and 8 ...	Do.
„	11 ...	(5) New tank. Site C	Do.
„	12 ...	(6) Weir at Site E for benefitting wells	Do.
„	12 ...	(7) Weir at Site F	Do.
„	15 ...	(8) New tank. Site J	Do.
„	17 ...	(9) Enlarging and repairing Molka Tank	Do.
„	24 ...	(10) Repairing and improvements to Tank 53 ...	Mehron.

Drainage Area No. 16.

Para.	1 ...	(1) Repairing and improvements to Tank No. 1. ...	Masuda.
„	10 ...	(2) Repairing and improvements to Tank No. 16. ...	Masuda.

Para. 15	...	(3) Repairing and improvements to Tanks Nos. 19 and 20, Site L.	Shergarh.
„ 26	...	(4) Repairing and improvements to Tank No. 27.	Sukrani.
„ 27	...	(5) Khari river project	Masuda, Satana, Kesarpura.
„ 29	...	(6) New Tank at Site H	Masuda, Shergarh.
„ 32	...	(7) Extension of Tank No. 41, Site F. ...	Masuda.
„ 32	...	(8) Construction of weir and feeder and enlarging Tank No. 40.	Shergarh.
39 „ ~~38~~	...	(9) Sluices for Tank No. 48	Masuda.
43 „ ~~42~~	...	(10) Repairs to Tank No. 32	Do.

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List of Chief Irrigation Tanks in the Istimrari area of the Ajmer District.

Number of Tank.	Name of Tank.	Estate in which situated.	Parganah in which situated.
1	Bicholao Talao	Pisangan	Pisangan.
2	Dand	Sethan	Do.
3	Bara Talab	Do.	Do.
4	Pagaran	Pisangan	Do.
5	Talao Nad	Do.	Do.
6	Batsuri Sagar	Do.	Do.
7	Jodh Sagar	Mewaria	Do.
8	Nadi Chajmangri ...	Do.	Do.
9	Naya Talab	Do.	Do.
10	Phool Sagar	Pinsangan	Do.
11	Jait Sagar	Do.	Do.
1	Bara Talab	Kharwa	Kharwa.
2	Bara Talab	Do.	Do.
3	Naya Talab	Do.	Do.
4	Gopal Sagar	Do.	Do.
5	Rani Sagar	Do.	Do.
6	Bara Talab	Do.	Do.
7	Bhatolai	Do.	Do.
8	Talab Pipliwala	Do.	Do.
9	Bara Talab	Do.	Do.
10	Ram Sagar	Do.	Do.
11	Bhojagal	Do.	Do.

Number of Tank.	Name of Tank.	Estate in which situated.	Pargauah in which situated.
12	Talab Bhangla	Kharwa	Kharwa.
13	Talab Ghangra	Do.	Do.
14	Talab Dara	Do.	Do.
15	Talab Barwala	Do.	Do.
16	Kalian Sagar	Do.	Do.
17	Naya Talab	Do.	Do.
18	Talab Barwala	Do.	Do.
1	Talab Rappat	Pisangan	Rajgarh.
2	Naya Talab	Rajosi	Do.
3	Ghisangan Talab ...	Do.	Do.
4	Ruparel	Do.	Do.
5	Naya Talab Moria-ki-rel...	Bubania	Do.
6	Bara Talab Kishen Sagar	Do.	Do.
7	Talab Dhola Danta ...	Do.	Do.
8	Kala Talab	Bagsuri	Do.
9	Talab Bhoom	Do.	Do.
10	Talab Pipla	Bubania	Do.
11	Talab Barwala	Bagsuri	Do.
12	Talab on Brigchiawas Road	Do.	Do.
13	Village tank	Do.	Do.
14	Bud Sagar	Do.	Do.
15	Usar Talab	Do.	Do.

Number of Tank.	Name of Tank.	Estate in which situated.	Parganah in which situated.
16	Talab Jhol	Bagsuri	Rajgarh.
17	Talab Morharpura ...	Do.	Do.
1	Bara Talab	Bandanwara and Jaola ...	Bhinai.
2	Naya Talab	Do.	Do.
3	Ranjit Sagar	Do.	Do.
4	Talab Soorajpura ...	Do.	Do.
5	Akhe Sagar	Do.	Do.
6	Bara Talab	Do.	Do.
7	Suraj Sagar	Do.	Do.
8	Talab Rampura	Do.	Do.
9	Harkia	Do.	Do.
10	Naya Talab	Bhinai	Do.
11	Barwala Talab	Do.	Do.
12	Talab of Arjanpura ...	Bandanwara and Jaola ...	Do.
13	Nadi of Chamars ...	Do.	Do.
14	Bara Talab	Do.	Do.
15	Sahal Tank	Do.	Do.
16	Talab below village ...	Do.	Do.
17	Talab Kheri	Do.	Do.
18	Partabpura	Do.	Do.
19	Dand Talab	Do.	Do.
20	Bhairon Sagar	Do.	Do.

Number of Tank.	Name of Tank.	Estate in which situated.	Parganah in which situated.
21	Ranjit Sagar	Bandanwara and Jaola ...	Bhinai.
22	Chausira	Bhinai	Do.
23	Daulatpura Tank ...	Do.	Do.
24	Talab Chauranwala ...	Bandanwara and Jaola ...	Do.
25	Naya Talab	Do.	Do.
26	Ram Sagar or Bara Talab	Bhinai	Do.
27	Barwala	Do.	Do.
28	Naya Talab	Do.	Do.
29	Kulthia	Do.	Do.
30	Nonaria	Do.	Do.
31	Sel Sagar	Do.	Do.
32	Suraj Sagar	Kalianpura	Do.
33	Usaria	Kabania	Do.
34	Kandolai	Do.	Do.
35	Sobhag Sagar	Do.	Do.
36	Nadi Bhan	Do.	Do.
37	Pirthi Sagar	Do.	Do.
38	Pawandia...	Do.	Do.
39	Marjad Sagar	Tantoti	Do.
40	Anand Sagar	Do.	Do.
41	Gulab Sagar	Do.	Do.
42	Sher Sagar	Do.	Do.
43	Bhabut Sagar	Do.	Do.
44	Ram Sagar	Do.	Do.
45	Bara Talab	Bandanwara and Jaola ...	Do.
46	Talab Bhairon	Jotayan	Do.
47	Bara Talab	Bandanwara and Jaola ...	Do.
48	Modia Talab	Do.	Do.
49	Raj Sagar	Goela	Do.
50	Gundalao Dand	Do.	Do.
51	Nada Sojana	Do.	Do.
52	Naya Talab	Do.	Do.

Number of Tank.	Name of Tank.	Estate in which situated.	Parganah in which situated.
53	Amartia	Goela	Bhinai.
54	Sheo Sagar	Sarana	Do.
55	Bara Talab	Do.	Do.
56	Gopal Sagar	Do.	Do.
57	Chota Talab	Barli	Do.
58	Bara Talab	Do.	Do.
59	Bhairon Sagar	Shokli	Do.
60	Takholao	Shokla	Do.
61	Kandera	Do.	Do.
62	Charnia	Do.	Do.
63	Gaj Sagar	Bandanwara and Jaola ...	Do.
64	Talab towards village ...	Do.	Do.
65	Bara Talab	Arwar	Do.
66	Karni Sagar	Do.	Do.
67	Kadolai	Do.	Do.
68	Bijai Sagar	Baori	Do.
69	Bara Talab	Do.	Do.
70	Debi Sagar	Tantoti	Do.
71	Shergarh Tank	Do.	Do.
72	Bhairon Sagar	Sholian	Do.
73	Bhabut Sagar	Tantoti	Do.
74	Gulab Sagar	Do.	Do.
75	Bara Talab	Kotri	Do.
76	Budia Talab	Bandanwara and Jaola ...	Do.
77	Hindola	Do.	Do.
78	Naya Talab	Tantoti	Do.
79	Talab below village ...	Do.	Do.
80	Rani Sagar	Bhinai	Do.
81	Village tank	Do.	Do.
82	Naya Talab	Do.	Do.
83	Karan Sagar	Barli	Do.
84	Banera	Do.	Do.

Number of Tank.	Name of Tank.	Estate in which situated.	Parganah in which situated.
85	Dhani Tank	Bhinai	Bhinai.
86	Chawand Sagar	Do.	Do.
87	Village tank	Do.	Do.
88	Deo Sagar	Do.	Do.
89	Suraj Sagar	Do.	Do.
90	Rani Sagar	Do.	Do.
91	Kala Talab	Do.	Do.
92	Man Sagar	Richmalia	Do.
93	Pangatia	Do.	Do.
94	Bijai Sagar	Do.	Do.
95	Piloda Tank	Bhinai	Do.
96	Purana Talab	Do.	Do.
97	Naya Talab	Do.	Do.
98	Karni Sagar	Deolia	Do.
99	Sadul Sagar	Do.	Do.
100	Pangata	Barli	Do.
101	Bhuntia	Do.	Do.
102	Naya Talab	Bhinai	Do.
103	Barlaka	Do.	Do.
104	Bhairon Sagar	Richmalia	Do.
105	Talab Khera	Jotayan	Do.
106	Jhela	Rughnathgarh	Do.
107	Bara Talab	Do.	Do.
108	Sham Sagar	Do.	Do.
109	Talab Dhorawan... ...	Jotayan	Do.
110	Ram Sagar	Do.	Do.
111	Pivania	Do.	Do.
112	Man Sagar	Do.	Do.
113	Dand	Goela	Do.
114	Naya Talab	Santolai	Do.
115	Kala Talab	Do.	Do.
116	Pivania	Do.	Do.

Number of Tank.	Name of Tank.	Estate in which situated.	Parganah in which situated.
117	Debi Sagar	Jaitpura	Bhinai.
118	Tank below village ...	Barli	Do.
119	Bara Talab	Jaitpura	Do.
120	Naya Talab	Do.	Do.
121	Suraj Sagar	Barli	Do.
122	Bara Talab	Bhinai	Do.
123	Kala Talab	Do.	Do.
124	Bara Talab	Nagolao	Do.
125	Bala Sagar	Do.	Do.
126	Talab Lorka	Do.	Do.
127	Deo Sagar	Do.	Do.
128	Piplia	Bhinai	Do.
129	Chota Talab	Do.	Do.
130	Athuna	Do.	Do.
131	Dodha	Do.	Do.
132	Bankra	Do.	Do.
133	Naya Talab	Do.	Do.
134	Bara Talab	Do.	Do.
135	Shiam Sagar	Kanai Kalan	Do.
136	Naya Talab	Do.	Do.
137	Khera-ka-Talab	Do.	Do.
138	Bhera Talab	Kerot	Do.
139	Talab below village ...	Do.	Do.
140	Naya Talab	Do.	Do.
141	Nadi Gujar	Barli	Do.
142	Naya Talab	Do.	Do.
143	Pangata .:.	Do.	Do.
144	Jhila	Parlia	Do.
145	Bara Talab	Do.	Do.
146	Chota Talab	Do.	Do.
147	Deo Sagar	Nandsi	Do.
148	Ranjit Sagar	Do.	Do.

Number of Tank.	Name of Tank.	Estate in which situated.	Parganah in which situated.
149	Man Sagar	Nandsi	Bhinai.
150	Mae-ka-Talab	Parlia	Do.
151	Chawand Sagar... ...	Do.	Do.
152	Khajur-wala	Bhinai	Do.
153	Purana Talab	Do.	Do.
154	Bishen Sagar	Jaitpura	Do.
155	Devi Sagar	Do.	Do.
156	Ratan Sagar	Do.	Do.
157	Bala Sagar	Do.	Do.
158	Man Sagar	Do.	Do.
159	Deo Talab	Do.	Do.
160	Khemcha	Kerot	Do.
161	Moti Sagar	Do.	Do.
162	Naya Talab	Do.	Do.
163	Talab on Dhanop Road ...	Do.	Do.
164	Shan Sagar	Do.	Do.
165	Naya Talab	Kurthal	Do.
166	Kabyan Sagar	Do.	Do.
167	Bara Talab	Do.	Do.
168	Talab below village ...	Gudha Kalan	Do.
169	Naya Talab	Do.	Do.
170	Chhapria	Do.	Do
171	Pandolai	Do.	Do.
172	Naya Talab	Nandsi	Do.
173	Chhipolai	Deolia	Do.
174	Sadul Sagar	Do.	Do.
175	Gopal Sagar	Bhinai	Do.
176	Rughnath Sagar... ...	Do.	Do.
177	Dand	Do.	Do.
178	Sheo Sagar	Do.	Do.
179	Bara Talab	Do.	Do.
180	Bund	Do.	Do.

Number of Tank.	Name of Tank.	Estate in which situated.	Purganah in which situated.
181	Akhe Sagar	Deola	Bhinai.
182	Himmat Sagar	Do.	Do.
183	Bhagoti	Do.	Do.
184	Nada Sankla	Do.	Do.
185	Nadi Guchchi	Do.	Do.
186	Dand	Do.	Do.
187	Pachpipla	Do.	Do.
188	Nadi Dhai	Do.	Do.
189	Mobat Sagar	Do.	Do.
190	Sheo Sagar	Barli	Do.
191	Naya Talab	Do.	Do.
192	Bhuntala...	Do.	Do.
193	Mahdla	Do.	Do.
194	Asholai	Do.	Do.
195	Deo Sagar	Do.	Do.
196	Bretji-Wala	Do.	Do.
197	Bari-Wala	Do.	Do.
198	Naya Talab Jhabarkia ...	Do.	Do.
199	Talab Pangata	Do.	Do.
200	Bhandar Sagar	Do.	Do.
201	Santola	Bhinai	Do.
202	Naya Talab	Do.	Do.
203	Baranwala Tank ...	Do.	Do.

Number of Tank.	Name of Tank.	Estate in which situated.	Pargaunh in which situated.
1	Lon Sagar	Junia and Meoda ...	Kekri.
2	Balaota	Do.	Do.
3	Jajorla	Do.	Do.
4	Dhonia	Do.	Do.
5	Bakht-Sagar	Do.	Do.
6	Kalian Sagar	Do.	Do.
7	Sheo Sagar	Para	Do.
8	Bara Talab	Junia and Meoda ...	Do.
9	Doralu on Kekri Road ...	Do.	Do.
10	Naya Talab	Do.	Do.
11	Ummed Sagar	Do.	Do.
12	Khatolai	Do.	Do.
13	Naya Talab	Tiswaria	Do.
14	Hadia	Do.	Do.
15	Talab Pipliwala	Mandha	Do.
16	Khandolai	Junia and Meoda ...	Do.
17	Naya Talab	Para	Do.
18	Molka Talab	Do.	Do.
19	Daulat Sagar	Bogla and Deolia Khurd	Do.
20	Naya Talab	Koda	Do.
21	Chawandi	Koas	Do.
22	Sheo Sagar	Meoda Khurd	Do.
23	Talab on Pranhera Road...	Para	Do.
24	Talab Khurd	Nimod	Do.
25	Dand	Para	Do.
26	Dedo	Do.	Do.
27	Naya Talab	Do.	Do.
28	Chhapria	Do.	Do.
29	Bhandolai	Do.	Do.
30	Sheo Sagar	Do.	Do.
31	Bhoja-wala	Do.	Do.
32	Naya Talab	Gulgaon	Do.

Number of Tank.	Name of Tank.	Estate in which situated.	Parganah in which situated.
33	Kali Talab and Sagram Sagar...	Para	Kekri.
34	Dand	Junia and Meoda ...	Do.
35	Kalian Sagar	Do.	Do.
36	Ranjit Sagar	Pranhera	Do.
37	Naya Talab	Do.	Do.
38	Devi Sagar	Mehron	Do.
39	Shahimur Talab	Do.	Do.
40	Talab Morra	Do.	Do.
41	Talab Morri	Do.	Do.
42	Sesh Sagar	Koas	Do.
43	Chhajalia...	Do.	Do.
44	Man Sagar	Do.	Do.
45	Kishen Sagar	Do.	Do.
46	Sagat Sagar	Do.	Do.
47	Sitolao	Sankria	Do.
48	Naya Talab	Do.	Do.
49	Dajodla alias Sandji-ka-Nada	Kadera	Do.
50	Naya Talab	Do.	Do.
51	Bara Talab	Mehron	Do.
52	Talab at Rampura ...	Do.	Do.
53	Abhe Sagar	Do.	Do.
54	Dip Sagar	Sidhara	Do.

Number of Tank.	Name of Tank.	Estate in which situated.	Parganah in which situated.
1	Sheo Sagar	Deogaon	Baghera.
2	Deo Sagar	Do.	Do.
3	Nilwali	Do.	Do.
4	Nadi Gadheri	Do.	Do.
5	Ganesh Sagar	Do.	Do.
6	Man Sagar	Karonj	Do.
7	Bhopat Sagar	Do.	Do.
8	Kalian Sagar	Do.	Do.
9	Nanga	Deogaon	Do.
10	Mahola	Do.	Do.
11	Hansola	Do.	Do.
12	Chagwala	Silari	Do.
1	Sheo Sagar	Sawar	Sawar.
2	Dhaulai	Do.	Do.
3	Bara Talab	Do.	Do.
4	Kulina Talab	Do.	Do.
5	Jal-ki-Nadi	Do.	Do.
6	Talab	Do.	Do.
7	Dhaulai	Do.	Do.
8	Ratia Talab	Do.	Do.
9	Ganesh Sagar	Do.	Do.
10	Gaon Tela	Do.	Do.

Number of Tank.	Name of Tank.	Estate in which situated.	Parganah in which situated
11	Kankria Talab	Sawar	Sawar.
12	Dand Talab	Do.	Do.
13	Nadha Sagar	Do.	Do.
14	Kharda	Do.	Do.
15	Debi Sagar	Do.	Do.
16	Gaon Tela	Do.	Do.
17	Chanwarla Talab ...	Do.	Do.
18	Udai Sagar	Do.	Do.
19	Bahra Talab	Do.	Do.
20	Chotka Talab	Do.	Do.
21	Bara Talab	Do.	Do.
22	Motolao	Do.	Do.
23	Naya Talab	Bisundni	Do.
24	Chotka Talab	Sawar	Do.
25	Bara Talab	Do.	Do.
26	Dand	Piplaj	Do.
1	Hira Sagar	Masuda	Masuda.
2	Ranjit Sagar	Jamola	Do.
3	Sabalpura tank	Masuda	Do.
4	Talab of Manna	Jamola	Do.

Number of Tank.	Name of Tank.	Estate in which situated.	Parganah in which situated.
5	Ram Sagar	Jamola	Masuda.
6	Uparla Tank	Masuda	Do.
7	Harrajpura Tank ...	Do.	Do.
8	Ganwala Talab	Jamola	Do.
9	Repton Sagar	Masuda	Do.
10	Ratan Sagar	Do.	Do.
11	Debi Sagar	Do.	Do.
12	Chhanet Sagar	Do.	Do.
13	Gopal Sagar	Do.	Do.
14	Naya Talab	Do.	Do.
15	Saran-ka-Talab	Do.	Do.
16	Kushalpura	Do.	Do.
17	Bara Talab	Do.	Do.
18	Bara Talab	Do.	Do.
19	Bakhtawar Sagar ...	Shergarh	Do.
20	Kala Talab	Do.	Do.
21	Purana Talab	Masuda	Do.
22	Sheo Sagar	Lamba	Do.
23	Daulatpura Tank ...	Satana	Do.
24	Bala Sagar	Do.	Do.
25	Lachmikhera	Do.	Do.
26	Nadi Sawai Sagar ...	Sukhrani	Do.
27	Raj Sagar	Do.	Do.
28	Talab Bhairon	Satana	Do.
29	Bara Talab	Do.	Do.
30	Lodhiana Tank	Masuda	Do.
31	Fateh Sagar	Kesarpura	Do.
32	Naya Talab	Masuda	Do.
33	Bhairon Khera Tank ...	Do.	Do.
34	Hariwantia Tank ...	Do.	Do.
35	Ganeshpura Tank ...	Do.	Do.
36	Debi Sagar	Do.	Do.

Number of Tank.	Name of Tank.	Estate in which situated.	Parganah in which situated.
37	Sheo Sagar	Masuda	Masuda.
38	Nim Sagar	Do.	Do.
39	Naya Talab	Kelu	Do.
40	Naya Talab	Shergarh	Do.
41	Shopura Talab	Masuda	Do.
42	Nand Sagar	Do.	Do.
43	Utmi Tank	Do.	Do.
44	Ganwain Talab	Do.	Do.
45	Bankra	Do.	Do.
46	Sarupia	Do.	Do.
47	Bahadur Sagar	Do.	Do.
48	Sameta	Do.	Do.
49	Naya Talab	Do.	Do.
50	Bara Talab	Do.	Do.

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12*th May* 1909.